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UNIX TO BECOME A NOVELL TRADEMARK AS UNIX SYSTEM LABS GOES IN \$320m STOCK SWAP

After months of speculation and half-hearted denials Novell Inc last week finally made the move to acquire all of Unix System Laboratories Inc from AT&T Co and its eleven other stockholders. On Sunday December 20th at 10pm it signed a letter of intent to make the acquisition in a stock swap valued at roughly \$320m for the 95% of USL it does not yet control. The sum is about four times USL's current revenues. The whole of USL was valued at \$325m eighteen months ago when AT&T sold off the first 21.7%. Novell expects to close the deal in the first quarter of 1993. It has the blessings of USL's board, which includes representatives from Ing C Olivetti & Co SpA, Fujitsu Ltd, and MIT, but the merger must still be approved by USL's other stockholders like Sun Microsystems Inc as well as the appropriate regulatory agencies. The three companies have been hammering out their understanding over the last few weeks: AT&T and USL have sought and reportedly received personal assurances from Novell chief Ray Noorda of the continued independence of Unix and the observation of the proprieties of open systems, neutrality and level playing fields. These terms must now be translated into a definitive agreement and a modus operandi that will be worked out on a daily basis between the two companies. USL will be run as a free-standing wholly-owned Novell subsidiary. Its current relationships with its OEMs and organisations such as the Open Software Foundation, Unix International and X/Open will be left intact as will its early access programmes. Its product line, including the Tuxedo transaction processing monitor, will be separate from Novell's. However, Novell, which claimed it was acting on the urgings of its customers, is expected to press the integration and interoperability of NetWare and Unix, the development of common management framework and common application framework ABIs to put at the service of third-party software developers and mission-critical accounts intent on rightsizing and employing distributed solutions. NetWare will be played as the network services provider and Unix as the application server. The desktop will be anybody's game. Novell is promising tighter integration with MS-DOS, Windows, OS/2, Apple Mac and Unix clients.

Bad blood

On the day the merger was announced, USL president Roel Pieper, who will report to Noorda, claimed a positive reaction to the move from AT&T's old enemies Hewlett-Packard Co and IBM who always fretted over AT&T's control, its hardware biases and its association with the bad blood that drove the industry apart. He told Unigram.X that the Novell takeover gives these companies "a more logical and fundamental opportunity to line up more," hinting that it may foster "things the market hasn't seen yet." It is believed the alignment of Novell behind Unix will make it more difficult for Microsoft Corp to run roughshod over the industry. Novell anticipates lending USL marketing, educational, services and infrastructure help that will accelerate the adoption of Unix. Sun Microsystems and its own software facility, SunSoft Inc, remain the merger's wild cards. Pieper tried and failed to get hold of the outfits to brief them and to gauge their reaction. Sun's warm and cuddly alliance with AT&T, the original cause of the bloody Unix wars, has now turned almost 180 degrees with Sun looking increasing out in the cold. AT&T said it should realise a gain in excess of \$100m in net income and will hold 3% of Novell's stock. It expects it to increase in value. Novell is handling the transaction as a purchase rather than a pooling of interests and will take a one-time write-off of up to \$250m the quarter the deal closes. It will amortize the rest of the next five to fifteen years. The only affect on the merger plan disgruntled stockholders, if there are any, could have is apparently to demand cash.

TRADE COMMISSION MOVES "LOOK GRIM FOR MICROSOFT"

The Federal Trade Commission has completed its 30-month investigation into the business practices at Microsoft Corp and has decided that the company has engaged in anticompetitive behaviour, according to the December 28 issue of **BusinessWeek**. It says the investigators are preparing a wide range of recommendations on how to proceed against Microsoft - everything from splitting the company into pieces, to erecting a Chinese Wall between divisions, to altering the way its software is sold to computer manufacturers. If the commissioners vote to proceed against Microsoft, they may move quickly, the magazine says. Agency staffers want the Commission to seek a Federal court injunction barring Microsoft from what they consider abusive practices. Some Wall Street analysts responded in rage to the report, Reuter reports: "Even to have a recommendation of splitting up the company is ridiculous," says Piper Jaffray analyst David Rothschild.

Unigram.X had intended to close for Christmas until the second week in January, but brings you this special extra issue in response to major industry events. Next edition, number 418, will be out on January 11th.

LARRY MICHELS RESIGNS FROM SANTA CRUZ

Unix pioneer Larry Michels, president, chairman, chief executive and co-founder of The Santa Cruz Operation Inc, has resigned in the wake of a civil suit filed by three former executive secretaries charging him with sexual harassment (UX No 415, 416). Jim Harris, a member of the SCO board of directors since 1988, has been named president and CEO in his place. Michels, who is now no longer even on the SCO board, has reportedly retained his own lawyer to fight the suit, determined to keep SCO's involvement to a minimum. On advise of counsel, the company officially declined to comment on the allegations. Michels, in a statement of his own made last week, maintained his innocence and termed the allegations "false and unfair" as well as the source of much "pain and anguish." The internal announcement of the resignation circulated December 21 also spoke of his "leave of absence" from the company but Harris' appointment is believed to be permanent. Harris, 49, who was appointed by the board to assess the charges on December 10, retired from Microsoft Corp in 1987. He had been vice president and general manager of OEM Division there for five years. Previously he had been with Intel Corp and Burroughs. Harris, who has been living in Minnesota and will eventually have to relocate, is to chair SCO's executive committee, which includes vice presidents Doug Michels, Sam Spadafora, Dan Steimle and Lars Turndal. This change in the SCO hierarchy comes at a highly interesting time. The company has been preparing to go public, a process the suit could have adversely affected, while at the same time it was believed to be object of some takeover desires by Unix System Laboratories (UX No 396). Now that Novell has finally made its move with respect to USL - see opposite - SCO could look doubly attractive. Even SCO insiders are speculating on the possibility that Novell could pick up where USL left off or that Microsoft Corp, which already owns a minority piece of SCO, could come back for more. A company such as IBM Corp, currently down on its luck, might nibble at the bait or that Sun Microsystems Inc, feeling perhaps increasingly isolated, might seek new alignments.

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1993 PREVIEW

by Tim Palmer

January. Revealing losses matching the company's (shrunken) turnover in Germany, IBM chairman John Akers says he sees real signs of recovery. In his final act as President, George Bush declares trade war on Japan over chip imports, and warns the Japanese to remember Pearl Harbor. IBM is selling mainframes at 37% of list. French farmers are in revolt over imported British agricultural software. Unisys figures show that the company is starting to grow again. Germany refuses to cut interest rates. The Danish Krone falls out of the Exchange Rate Mechanism. The Nikkei falls below 16,000.

February. Steve Jobs says NeXTStep 486 will ship by the end of the year. IBM is selling mainframes at 33% of list. Acer Group of Taiwan appoints Ken Olsen chief executive. Sun Microsystems turns SunSoft into a holding company with nine subsidiaries. Olivetti files bankruptcy papers; Italian government can't help: it's bankrupt too. Germany raises interest rates as inflation hits 5%. Al Gore falls asleep as he makes maiden speech as Vice-President; no-one notices - they're all asleep too. The Irish punt falls out of the Exchange Rate Mechanism. The Nikkei falls to 15,000.

March. Olivetti is rescued by the Vatican and renamed Holivetti. The Pope declines the post of Papa and chief executive. Compaq says Prolinea backlog is two months. IBM is selling mainframes at 29% of list. Bob Djurdjevic bones up on pork belly futures. Intel insists that there are no overheating problems with Pentium, delays ships to May. The Italian government describes Denmark's presidency of the European Community as the worst since Britain's. Germany refuses to cut interest rates. Britain says it remains fully committed to rejoining the Exchange Rate Mechanism when the time is right. Norman Lamont delivers his budget and tells the House he wants to spend more time with his family. The Nikkei falls below 14,000.

April. Losses at Amdahl exacerbate a major cash crisis at Fujitsu, which rushes forward the flotation of ICL. Sun forms SunDries for computer supplies and SunTruss for support. Unisys starts paying dividends again. IBM is selling mainframes at 23% of list. Nazi thugs burn down Sony's Berlin premises: Chancellor Kohl wins big cheers when he says the perpetrators are just high-spirited hooligans, reminds listeners that German-Japanese friendship goes back more than 50 years. French farmers are revolting again. Norman Lamont's family says it doesn't want to spend more time with him. Germany refuses to cut interest rates. The French franc falls out of the Exchange Rate Mechanism. The Nikkei dips to 13,000.

May. Fujitsu floats 25% of ICL at 225 pence a share. ICL shares soar to 465 pence in first week of trading. The factory testing Intel's Pentium burns down. Intel delays ships until October. The German government persuades Siemens to take over IBM Deutschland after it reports losses that exceed turnover. IBM is selling mainframes at 17% of list. IBM System User relaunched as Microsoft User. Italian government falls as it is revealed that Vatican money to rescue Olivetti came from the Mafia; Cosa Nostra says "we were just doing Our Thing". John Major, unable to find anyone willing to succeed Lamont, reminds the House that he is First Lord of the Treasury and takes the job himself. Germany raises interest rates as inflation reaches 7%. The Nikkei falls below 12,000.

June. Apple merges with Motorola, buys all rights to the PowerPC from IBM. Norman Lamont joins IBM as chief financial officer, says he sees glimmers of green among the brown shoots of economic winter. IBM is selling mainframes at 13% of list. Advanced Micro Devices starts shipping Am586 in 100MHz, 150MHz and 200MHz versions. The German budget deficit soars as Chancellor Kohl bribes Hitachi and Toshiba to close their German operations and transfer them to Northern Ireland; a relieved Toshiba says "IRA terrorists are rank amateurs compared with Nazi thugs". French farmers are still revolting. The Nikkei rises to 12,000.

July. Full year losses are bigger at DEC as Alpha gets off to slow start. First half losses at Groupe Bull cause the company to plead with the French government to take it over. Government points out that it already owns it. Francis Lorentz makes Paris Metro pay by replacing all personnel with computers. ICL shares soar to 720 pence. French farmers are on vacation. The Dutch guilder falls out of the Exchange Rate Mechanism. IBM is selling mainframes at 7% of list. The Nikkei dips below 12,000.

August. Cash crisis deepens at Fujitsu: it tries and fails to sell Amdahl to Electronic Data Systems. General Motors tries and succeeds in selling Electronic Data Systems to AT&T. After disappointing year-end figures, Sun consolidates all subsidiaries back into parent, renamed SunSet. NeXTstep 486 is renamed NeXT step Pentium. Intel promises Pentium by year-end. Acer under Olsen buys DEC. IBM mainframes go for 3% of list. The French government engineers a merger between Bull and the Paris Metro, where Francis Lorentz is in charge. French farmers drive cattle through the tunnels of the high-speed RER in protest. Germany refuses to cut interest rates. The Belgian franc is forced out of the Exchange Rate Mechanism. The Nikkei plunges below 11,000.

September. ICL shares hit £10. Fujitsu sells another 30% to ease its cash crisis. Compaq says Prolinea backlog is six months. IBM bundles a mainframe with every RS/6000 it sells. French farmers are even more revolting. Germany refuses to cut interest rates. The mark stands firm in the Exchange Rate Mechanism. Siemens abandons computers, sells user base to Unisys for \$1. The Nikkei dips to 10,000.

October. ICL takes advantage of its highly-rated paper to buy Dell; Michael Dell becomes chief operating officer. Apple-Motorola buys Acer. Sculley fires Olsen, kills Alpha. Britain says it remains fully committed to rejoining the Exchange Rate Mechanism when the time is right. IBM third quarter losses exceed the gross domestic product of California as warehouses fill up with unsold RS/6000s. An emergency board meeting is called for November 28. Intel promises Pentium by mid 1994. The Nikkei hits 9,000.

November. ICL buys Compaq. Prolinea backlog shrinks to one week. IBM's emergency board meeting ousts the entire management, but Thanksgiving by IBM employees is short-lived as it appoints W Michael Blumenthal to succeed John Akers. The UK government just survives vote of confidence by one vote as opposition leader John Smith votes with Tories saying "You got yourselves into this mess, I'm not getting you out of it." Germany cuts interest rates as inflation falls to 11%. The Deutschmark falls out of the Exchange Rate Mechanism. Luxembourg says it remains fully committed to keeping its currency within the ERM. Jacques Delors reminds Luxembourg that it doesn't have a currency. The Nikkei falls below 7,000.

December. Hailing the historic opportunities for synergy and manufacturing efficiencies, IBM under Blumenthal makes a highly leveraged hostile bid for General Motors with money borrowed from an unidentified Arab country. GM shareholders take the money and run. ICL buys Fujitsu, sells mainframe side on to AT&T's Electronic Data Systems. Hitachi asks AT&T to take its mainframe business as well. Hewlett-Packard buys the rest of Hitachi's computer business. Intel cancels Pentium, promises Sextium in early 1995. NeXTStep 486 becomes NeXTstep Septium. President Clinton wants to spend more time with Gennifer Flowers. France unilaterally abrogates the Maastricht Treaty when President Mitterrand realises that the Common Defence Policy requires conscription of French farmers. The UK ratifies the Maastricht Treaty. Our sister paper, **Computergram International** is summoned to appear before the California Committee on Politically Correct Conduct. The Nikkei hits a new high of 55,500. Happy New Year.

BULL CHIEF BERNARD PACHE SAYS THAT MORE JOB CUTS ARE INEVITIBLE

Compagnie des Machines Bull SA's managing director, Bernard Pache, said in a committee meeting between labour and management last week that without doubt he would have to cut employee levels further. According to *Les Echos*, union officials said that Pache would give no indication of the size or timing of staff losses. Management indicated, however, that manufacturing sites in France, heavily pruned in previous restructuring, will be spared. Indeed the plant at Angers is expected to recover notably in the coming year, when it begins to manufacture GCOS 8 mainframe systems currently manufactured in the US. Such news indicates Bull's persisting difficulties. In the first half, the group registered an operating loss of \$158.7m and a net loss of \$312m, on revenues down 9.6% at \$2,600m. The newspaper *Liberation* believes that Bull's operating loss for the full year could hit \$185m, with net losses exceeding \$370m. Bull management refused to comment. Bull has confirmed its intention to re-group several development teams within Bull Systems Products, "which are working on common programmes but in different establishments." It also intends to close its Ave site "for general cost-cutting reasons" as well as Gabetta in Paris's 20th arrondissement. This "would enable us to save over \$15m and would add to the decision to transfer group headquarters to Bull's tower at La Defense, generating supplementary savings of \$7.5m a year."

ENTERPRISE BRINGS IN CROSS ACTION SYSTEM FOR PROVIDING SQL ACCESS TO NON-RELATIONAL DATABASES

Despite Hewlett-Packard Co's Image/SQL interface announcement (UX No 416), Wokingham, Berkshire-based consultancy firm Enterprise Computer Services Ltd is to distribute what it says is the world's first development environment for providing transparent SQL access to disparate non-relational databases. The system was designed for IBM back in 1989-90 by Santa Clara, California-based Cross Action Inc. It acts as an interface between client-server software, providing access to DB2, Focus, Model 204, Oracle VSAM and IMS databases. Other systems are being added to the list - precise details are not available - and will be available in the first quarter of next year. Cross Action intends eventually to build support for all widely used databases into its eponymous system. The system is based around IBM's Systems Application Architecture SQL language with DB2 extensions and provides access to information stored under IBM's VM and MVS systems and Digital Equipment Corp's VAX/VMS. It is compatible with IBM's AIX Unix system and so can run on an RS/6000, but Cross Action has yet to add support for DEC's Ultrix. It comprises a number of modules, designed for each specific system, which reside on all the hosts and satellite machines the user wishes to connect. Communication is via TCP/IP and LU6.2 protocols. As Cross Action is compatible with DB2 SQL and Cobol commands, Enterprise says developers will need little or no extra training to use it. Applications can be developed on the user's preferred system and data will be accessible regardless of where it resides. Enterprise says the system is ideal for large companies wishing to organise their data management systems into a more coherent whole while preserving their current hardware and application investments. Cost depends on application, but it ranges, on average, from around £100,000 to £500,000. The system is available now in the UK, and follows in the first quarter next year in Germany, through Enterprise.

CYPRESS: 400 TO GO AS IT CLOSES SAN JOSE WAFER FAB

Cypress Semiconductor Corp, San Jose is having to restructure to improve its manufacturing cost-effectiveness, at the cost of an other 400 US jobs. It says that based on the cost reduction it has achieved in transferring 75% of assembly and test to Bangkok, Thailand, it would transfer the rest of its production to Bangkok over the next six months, enabling further cost reductions and facility consolidations at its San Jose site. All wafer fabrication at San Jose will transfer to the Minneapolis plant, leaving it with just two fabs, the other being in Texas. Research and process development will remain in a scaled-down San Jose facility. It is also to pay Advanced Micro Devices Inc \$4.25m to settle a four-year suit. It also gets licences to 22V10-type programmable logic devices and Am9116 16-bit bit-slices.

USL AND NOVELL: SUN REACTION

Sun Microsystems Inc chief, Scott McNealy, told Uni-gram.X that he is delighted with the amount of "advertising" and sense of energy and power the Novell Inc/Unix System Labs merger will create for Unix SVR4. He is unsure of the "philosophical" position that Novell will take and figures it could be a year before the industry knows for sure. On the other hand, he has a great deal of confidence in Noorda's intellectual prowess and innate capitalism to deliver for Sun what Sun needs from USL as USL's "largest customer": low royalties, available source, open interfaces, technological innovation and resolution of any channel conflict with Sun-Soft.

...WINDOWS NT ON SPARC "IS OK IF MICROSOFT WANTS TO PORT IT"

Surprisingly, perhaps, it is technology innovation that seems to be the burr under McNealy's saddle. He claims the good exciting source code is coming these days from Hewlett-Packard Co, Open Software Foundation and his own Sun-Soft Inc - not USL. As for breaking away, he says that cannot happen - there is no place to break way to. He figures in the future, the world's management information system departments are going to juggle two environments, Microsoft Corp Windows NT and Unix and that the real loser is all of this is IBM's OS/2. McNealy says he is perfectly willing for NT to go on the Sparc RISC if Microsoft wants to port it. He is willing to throw in a couple of technical support people to explain to Bill Gates how Sparc works, and he will even sell naked hardware to an OEM like Dell Computer Corp or Electronic Design Systems. He is just not willing to put it in his price book. He says he is equally willing to do the same for any other operating system.

IBM: 30% KICKER, EIGHT-WAY 9021MP, DB2 BOOST FOR FEBRUARY

Despite the all the cutbacks that so clearly indicate that IBM Corp now acknowledges that the mainframe cannot remain a dominant part of its business for much longer, the company does have new models up its sleeve for early next year - February is thought likely, our US associate Technology News of America hears. The blitz will be headlined by the long-awaited eight-way system and a 25% to 30% performance boost for the uni-processor 9021, which is expected to tail off somewhat as more processors are added and coupling overheads multiply. There will also be some kind of performance boost for DB2 - either more microcode or conceivably the dedicated DB2 processor that IBM has been speculating about for 10 years now. The bad news is that the eight-way - and seven-way - machines will not be single-image systems but two fours - or a four and a three - tied together in an MP configuration, so that software has to be loaded on each side. The mid-range 9121 uniprocessor is expected to be goosed even more - perhaps by 40%, further encouraging users to avoid calling in the plumbers - or to call them in to tear the chillers out. There will also be a slugged version - or a different, lower power 9021 CPU. Something on the 9221s - the 9730 successors, is also likely, but they have been such poor sellers that there is little interest. As for pricing, IBM will try to limit discounts on list prices but the market will likely dictate that it remains "name-your-own-price".

JAPANESE UNIX FAIR

Japan's annual Unix Fair was held a couple of weeks ago at a new venue in Yokohama, attracting 89 exhibitors and 37,000 visitors. Staged in parallel was a less well-attended series of seminars. Speakers included Walter De Backer of the European Commission, giving the European view of how to migrate to open systems. Anita Byrnes reports on the pick of the exhibits on show.

KAWASAKI SHOWS CHARLES RIVER 80486-BASED UNOS BOX

Kawasaki Steel Corp displayed for the first time the Universe FR fault-resilient computer which it sells under a distribution arrangement with Charles River Data Systems, Framingham, Massachusetts. The Universe II FR series is a new line, successor to the Motorola 68000 series first released in 1987, and uses the Intel Corp 80486 in fully duplexed CPUs, running the company's System V.4-based Unos operating system, with extra support of an event count function for real-time processing, the Veritas file system and incorporating the Informix relational database. Kawatetsu is targeting factory automation system integrators for applications such as on-line data gathering and control, production control systems and large-capacity file servers from April.

SONY BIGNEWS IS BOOKSIZE STATION; SONY-TEK FOR X

Sony Corp has a new "booksize" workstation it calls bigNEWS NWS-3150, and has priced it at \$5,645, making it just possible for the individual user to afford. With dimensions of 12.7" by 14.3" by 2.7", 9 lbs 14 oz in weight, it is based on a 40MHz R3081 chip, which achieves performance of 37 MIPS, runs just one hour on the internal battery; the display puts up 1,024 by 768. Sony Tektronix Inc, the 50-50 joint venture between Sony Corp and the Beaverton, Oregon company, displayed two series of X-terminals: two models in the XP11 series, the 19 inch XP12 model, and the 17" XP18 256-colour X-terminal, both low-end, low-price displays aimed at business applications; and four models in the XP330 series, based on an R3000 RISC chip, designed as an X11.4 server in technical applications. In Japan, a Tektronix representative admitted to some disadvantage from not having full Japanese language support - though kana-kanji keyboards and kanji fonts in Flash EPROM are supported. It sees the Japanese market for X-terminals growing at 100% over the next few years.

FRAME TECHNOLOGY IN SHAPE TO CONQUER LOCAL DESKTOP

Frame Technology Inc, San Jose, also exhibited in support of its numerous partners in Japan, exhibiting a new version of Japanese Framemaker 2.1X desktop publishing, which has a number of new features to suit the Japanese environment, including tategaki and automatic numbering of kanji and numerics. Framemaker already supports 7,000 JIS kanji characters, use of FEP for kana-kanji henkan and the Japanese version has compatibility with other versions of the software including French, German and Italian. Frame Technology has a number of sales channels in Japan, including Rikei Corp on Sony NEWS, Oki Electric on the OkiStation, Sparcstations, Matsushita Computer with its PanaStation. SRA Corp is Frame Technology's development partner for implementing on new Japanese environments. Frame claims 38% of the world market for desktop publishing under Unix; nearest rival is Interleaf Inc, and in Japan expects to win at least the same market share, according to senior vice-president Pat House.

FUJITSU'S SUBARU CATCHES THE EYE

Fujitsu Ltd showed the Subaru three-dimensional computer graphics system system launched in October. It is based on an in-house "reconfigurable parallel processing architecture". The software switches between a traditional pipeline structure for high-speed shape and colour rendering and an information exchange structure for photorealism. Fujitsu says the thing does 1m polygons per second with a single unit and up to 5m polygons per second with a fully-configured five-unit system, enabling generation of real-time animated graphics for TV and movies. The system incorporates special hardware, a main processing unit consisting of two control processors and 32 computational processors arranged as a four by eight array; and is front-ended by a Fujitsu S series (Sun Microsystems) workstation running Solaris and supporting PHIGS and XGL for CAD/CAM applications and PEX for photorealism. Fujitsu hopes to use the system to present computer-aided engineering output, atmospheric temperature, or molecular structures, exploring all such data as a virtual world in real time.

MARUBENI FLIES AXIL SPARCSYSTEMS

Marubeni Electronics Co showed Sparc workstations from Axil Inc of San Jose, a subsidiary of Hyundai Electronics Co. The S210 is a 40MHz Sparcstation 2 clone, and the S310, a Sparcstation 10 clone; also shown was the Axil 230 based on the SuperSparc, incorporating a facsimile modem instead of the ISDN board. Axil aims to price 20% below Sun and that it is targeting non-technical markets such as manufacturing, transport, financial services and health-care. Marubeni was to make a definite decision on whether it would carry the Axil workstation products depending on reaction at the show.

SURI GIKEN SHOWS MENTAT'S STREAMS

For the first time in Japan, Suri Giken Co displayed the Streams products from Mentat Inc, Los Angeles, with which Suri has just concluded a licensing agreement. Streams is an independent implementation of the System V Streams product, and provides a common system for communications protocols. In a non-System V.4 kernel, the original TLI, XTI and Socket lib are replaced by Mentat TLI, XTI and Socket lib, on which runs the Mentat MPS, and under than the Mentat TCP/IP module, XTP module and XNS module, and other protocols. In the US Mentat numbers among its customers IBM, DEC, Hewlett-Packard, and the Open Software Foundation - Streams is incorporated in OSF/1. For example, in HP-UX, use of Mentat MPS provides a common environment for use of protocols such as TCP/IP, AppleTalk and X25. Xerox Corp is Mentat's largest customer, having commissioned and using the Mentat XNS module. In Japan Suri Giken will be seeking to make OEM sales to workstation vendors and board vendors, particularly those manufacturers of embedded systems. One customer has already been signed but that product is still under development and no announcement has been made as yet.

EUROPEAN ROUNDUP

Auspex Systems Inc has picked up distributors in Europe and the Pacific Rim including Storage Data Systems International in France, RacTech GmbH in Germany and Edata in Scandinavia. Sydney, Australia's Dawn Technologies Pty has formed Auspex Systems Australia to market Auspex's servers there and in New Zealand expecting \$3m in sales its first year.

UK-based Salford Software Ltd, Salford, is offering a Fortran compiler for Microsoft Corp Windows NT on Intel Corp platforms: FTN77 will be available by the middle of this month - the company claims it will compile 55,000 line of code per minute on a 33MHz 80486 box running developer versions of NT. No prices given. +44 61 745 5678.

Houston, Texas-based, Talus Corp and the Electronic & Computer Science Centre (ESCS) of the Moscow Institute of Physics and Technology have released the first Russian programme for NeXt Inc's NeXtStations. The programme called, pVisor, is a 3D molecular visualisation system that allows users to display complex molecule formulae on screen. pVisor, already available in French and German versions, will begin to ship Russian versions in October.

Further additions to Sybase Inc's European management include Gerhard Romen as area director for central Europe and Andre Andrieux who becomes vice president for southern Europe: both report to Robert Albers, vice president of European operations.

Westmount Technology bv, Delft, Netherlands, will unveil release 3.0 of its Open I-CASE ISEE environment on January 15: +31 15 610815.

A Real-Time Systems '93 exhibition will be held at the Palais des Congres, Porte Maillot, Paris, France, between January 13 and 15 +1 331 4451 5500

O2 Technology SA, France, has signed Horsham, West Sussex-based, Tenet Systems Ltd to market its object-oriented database management system in the UK. O2's database includes an object-based database manager, a fourth generation language, O2C, the object query language, O2SQL and interface toolkit O2Look. +44 403 711555

Unix SVR4.2-on-Intel house, Consensys Corp, Toronto, Canada, has signed a boatload of European distributors for its Consensys 4.2 implementation of Unix System Lab's desktop operating system: Garmhausen and Partner Belgium, Sterrebeek, Belgium; RCM Company AB, Karlstad, Sweden; Garmhausen & Partner GmbH, Bonn, Germany (for Croatia, Czechoslovakia, Hungary, Poland, Romania and Slovenia); Future Soft, Paris, France and Onsite Computer, Allershausen, Germany - the rest of Europe will be handled by Consensys' European operation in Reading, UK. +44 734 833241.

DigiBoard has appointed Jon Williams as European marketing manager: Williams joins from Novell Inc, where he was a senior European product manager, and will be based at DigiBoard's German operation in Cologne. + 49 2203 81083.

In the UK, Unix consultancy, Paragon Project Services, Bracknell, Berkshire, has acquired the software support division of MS-DOS shop, LSI Computers, Dublin, Ireland.

Former Multisoft Systems Ltd co-founder, Chris Stevens, and sales director, Chris Sharp, now at UK software house Fourfront Ltd, Petersfield, Hampshire, have introduced a Copyright Accounting Suite in the UK which runs on Unix, MS-DOS and NetWare-based systems: prices for the nine modules go from £1,000 for an eight-user version.

SoftwareFabrik GmbH, Vienna, Austria, has come out with version 2.0 of Archiv+light+, its Windows-based document management system that also runs over Unix client/server networks: the system controls the scanning and archiving of paper documents on optical disks, and will retrieve, display and print documents in the system.

Ontario, Canada-based Hummingbird Communications Ltd has signed a licensing agreement for its HCL-eXceed PC X server with the Austrian Federal Ministry of Science and Research. Supplied by MSB Mikrocomputer Software Handelsges mbh of Vienna, the X-Windows-for-PC package will be for use by all Austrian universities and polytechnics.

An organisation known as EAST, the Environment of Advanced Software Technology, has a team of 70 engineers ready to provide tools and support for software engineering and development projects: EAST operates out of the offices of SFGL, Boulogne, France, a subsidiary set up by Bull SA, CAP Sesa, Cisi, Sema Group and Steria back in 1985 to develop software engineering solutions for the whole software life-cycle. EAST: +33 1 46 94 7700.

UK Unix office software supplier, Uniplex Ltd, based in Hemel Hempstead, Hertfordshire, has opened an Italian subsidiary, Uniplex Italia Srl, in Milan. The company claims 110,000 users in Italy.

Danish consultancy, International Datasupport A/S, Copenhagen, is now offering analysis, design and development services for Unix-based commercial document publishing systems.

Data Sciences UK Ltd, Farnborough, Hampshire, has appointed Hospitality Perspectives Inc, Stamford, Connecticut, to distribute its Champs property management system in the US. Meanwhile, the UK firm is to market Toronto, Canada-based SLM Software Inc's ESP-Link financial software in Europe. +44 252 544321.

ICL plc hopes to achieve upwards of 8,000 transactions per second on its Cypress Semiconductor Corp HyperSparc-based the server by mid-1994 (UX No 411).

Ready Systems Inc, Sunnyvale, California and Norwegian firm Enea Data AB are to jointly develop and sell new real-time software for the embedded systems market: under the deal Enea will also integrate its OSE kernel into Ready's Spectra backplane. Ready: +1 408 736 2600

The Ukraine's first "modern" computer-integrated manufacturing centre, using a broad range of equipment from IBM Corp, has been inaugurated in Kiev at the Kiev Polytechnic Institute, and while it was there for the ceremonies, IBM took the opportunity of establishing a Representative Office in Kiev, the first to be established outside Moscow in the former Soviet Union. Equipment includes an ES/9000 Model 150, seven RS/6000s, 13 high precision graphic workstations and Catia software for computer aided design, manufacturing and engineering.

UK firm Object Designers Ltd, Henley-on-Thames, Oxfordshire, has launched a sister company - Object Trainers Ltd - geared to providing courses on all types of object technology across Europe. +44 491 410222.

UK firm Hamcom Systems Ltd, Banbury, Oxfordshire, is offering 16Mb and 64Mb memory boards for Sun Sparcstation10s at £610 and £3,600 respectively.

London-based Alex Technologies Ltd says its Alex graphical user interface builder now supports Moolit - the Motif Open Look intrinsics toolkit - in Univel Inc's UnixWare.

Intergraph UK Ltd, Swindon, Wiltshire, has won a £1.7m contract from London-based systems consultant Logica plc for 30 workstations and five servers that Logica will use to develop a records maintenance system for Anglain Water Services.

Now owned by ICL plc, Warrington-based Technology plc will start a subscription catalogue service for open systems solutions in the new year, aimed at corporate users: Technology distributes DEC, HP and Grope Bull (IBM) Unix kit alongside ICL systems. +44 925 830404.

Camberly, Surrey-based Admiral Software Ltd is to distribute Versant Object Technology Corp's object database software in the UK: +44 276 692269

Evans & Sutherland Computer Corp, Salt Lake City, Utah has formed an industrial design unit in Europe and named Peter Keuschnigg the European general manager: the new unit, in Munich, is responsible for sales and support of Evans & Sutherland's industrial design products in Europe, including the CDRS software.

Brussels-based ODA Consortium will publish the first release of its Open Document Architecture toolkit for EDI on March 31st next year. The initial version supports text, image and graphics: release 2, due at the beginning on 1994 will support desktop publishing. The ODA Consortium is a European economic interest group set up earlier this year - members include Groupe Bull, DEC, IBM, ICL, SNI and Unisys: +32 2774 9623.

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The Weekly information newsletter for the UNIX community worldwide

Observers expect the Santa Cruz Operation to announce a profit for its first quarter shortly: the market is expected to want the company to prove it can be profitable for one further quarter through to March - without Larry Michels - before issuing an initial public offering next April with the aim of going public in June.

Jim Harris, new president and CEO of the Santa Cruz Operation, was one of the very earliest in the door at Intel Corp, where he made his fortune: since 1988, aside from his position on SCO's board, he has been occupied as a farmer in Minnesota.

With IBM Corp's stock in the cellar and as hopes dim it will ever again return as the flagship of the US stock market, **The New York Times** last Sunday 20th was searching around for a successor and came up with - you guessed it - Microsoft Corp. Then on Monday 21st on its front page **The Wall Street Journal** suggested that the technology torch slipping from IBM's fingers is being picked up by its own creations: Intel Corp and Microsoft with Pentium and NT.

IBM is bringing back two retired executives, Paul Rizzo and Kasper Cassani, to help chairman John Akers run the joint. **The Wall Street Journal** figures current management isn't strong enough to meet the mounting crisis but doesn't know yet whether Akers is losing the support of his board. The company denied his authority is being undercut. Both Rizzo and Cassani are ex-IBM vice-chairmen and according to IBM Akers called them back as "counsellors and advisors" with Rizzo for the US and Cassani for Europe. It seems the extra help is wanted to get IBM's division to function more as independent companies.

Calling it a significant strategic alliance and the new cornerstone of its Unix division, Gates/FA, the US national distributor, will be distributing the developer's Interactive System Unix to its resellers under license from SunSoft Inc. The deal expands SunSoft's access to the Intel crowd.

Network Computing Devices Inc has agreed in principle to make a \$4m investment in Net-Manage Inc, a two-year-old Cupertino, California-based vendor of networking protocol software for the Microsoft Windows environment, giving it a 10% ownership position. The two firms will cross-license and resell each other's products. NCD will resell Net-Manage's Newt, a TCP/IP communications protocol stack for Windows PCs, as well as its Chameleon and Chameleon/NFS suites.

As we went to press, DEC was getting ready to set up nine new business units as part of its reorganization struggle, some of them reportedly headed by leaders brought in from the outside and others have yet to be chosen.

Univel Inc has outgrown the offices it was leasing from its parent Novell and has moved to new premises in the neighborhood also belonging to Novell. Its new phone number is +1 408 729-2300.

DEC says its Ultrix MLS+ has become the only high-performance Compartmented Mode Workstation to pass the US government's Initial Product Assessment Report Technical Review Board, the last major step before entering Formal Evaluation. It is asking for B1 certification, the requirement for a trusted CMW. Meanwhile, OpenVMS and its companion piece the security-enhanced SEVMS have gone into Formal Evaluation aiming at C2 and B1 certification respectively.

SNA communications house Systems Strategies Inc says it has designated UnixWare as the primary development platform for its new Express 2.0 Unix-to-IBM (AS/400 and mainframe) comms software.

Tatung Science & Technology has cut prices on its COMPstation 40 Sparcstation 2 clones by up to 16%. A high-end configuration with 520MB, 16MB RAM, 19-inch colour monitor, single-slot GX accelerator, Solaris 1.1, Motif, X11R5 and X.desktop 3.0 is now \$9,000, down from \$10,700.

IBM's direct sales force will be selling VMark's uniVerse post-relational database management system on RS/6000s under a new Cooperative Software Provider pact.

We're warned to be on the lookout for Hermes, a suite of server-based network management tools Microsoft Corp is developing for NT to track client configurations.

Reports suggest Sanyo Electric Co will release a Mips R4000-based Unix server by the middle of next year.

Matsushita expects to start shipping two Viking-based workstations, co-developed with its investment, Solbourne, in February: a four-processor Series 6/700 and an eight-chip 6/900. They figure they can get a thousand out over three years.

San Francisco, California-based Tesseract Corp is porting its Primrose parallel processing application development environment to Pyramid Technology Corp's MIServers, which Pyramid will market as PrimroseSMP.

Integrated Device Technology Inc says Orion, the low-power Mips Technologies Inc R4000 VRX derivative developed for it by Quantum Effect Design Inc (UX No 409), will be taped out by the middle of next year, with samples due twelve months from now.

Neuron Data Inc, Palo Alto, California, will have a version of its Open Interface graphical user interface builder for Univel Inc's UnixWare out in the first quarter of 1993. Neuron Data UK: +44 71 408 2333.

Cincinnati, Ohio-based SCH Inc has formed a Professional Services Division which will focus on helping users move from proprietary to Unix-based software solutions. +1 513 579 0455

In the quarter to June 30, Nippon Silicon Graphics Inc increased its revenues 20% over the same quarter last year, to the equivalent of \$107.9m.

Oracle Corp is to support Novell Inc's NetWare running native on Hewlett-Packard's Precision Architecture RISC NetWare server, which is expected to ship in 1993: Oracle will offer a version of its Oracle7 database NetWare Loadable Module.

Digital Equipment Corp is apparently gearing up to launch its VAXft 810 fault-tolerant box, originally due in August, sometime in the first quarter: DEC has merged its fault-tolerant development unit into the general Alpha-VAX Systems operation.

VMark Software Inc, Framingham, Massachusetts, has made its uniVerse post-relational database available on Tandem Computers Inc's fault-tolerant Unix systems.

Digital Equipment Corp is to phase out its Boston manufacturing facility, where about 190 people are employed making cables for computers.

IBM Corp president Jack Kuehler says that we've all got it all wrong with regard to the company's \$1,000m cut in 1993 research and development budget (UX No 416): he says that the cut is off the gross budget, which is \$9,000m, not the net budget, which is \$6,000m, the difference being that the net figure takes account of software development costs written off as incurred; most people reckon that a cut of \$1,000 is a cut of \$1,000m and is a very big sum to lose in one year.

Sequent Computer Systems Inc figures it will be seeing \$30m over the next eight years from selling its Symmetry 2000/750 and 450 machines to the US Department of Veteran Affairs as part of a multi-vendor team led by systems integrator Federal Data Corporation. The US agency is modernising its system and will be servicing 12,000 users in a client/server architecture for on-line transaction processing.

Hewlett-Packard Co and Cimage Corporation have signed a strategic agreement to port Cimage document and image management software to HP's Unix-based Series 700 workstations and Series 800 servers. The packages include Cimage Document Manager, Engineering Workflow System and ImageMaster software. Cimage: +1 313 761 3147.

In Japan, DEC expects to ship 12,000 Model 400 series Alpha machines - available in seven guises - by the end of June 1994, and 6,000 Model 300s.

Three-quarters of respondents to a survey by the Malaysian National Computer Federation are currently using proprietary systems - 81% of those said they'd be moving to open systems in future.

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LACHMAN ASSOCIATES RE-EMERGES THROUGH INTERACTIVE SYSTEMS BUY

A few days before Christmas, Eastman Kodak dumped Interactive Systems Corporation, the half that was left after SunSoft bought its piece a year ago, into the lap of the Ottawa-based integrator SHL Systemhouse Inc for an undisclosed amount of money. Then on December 31, right before they started ringing in the new tax year, executive vice president Ron Lachman wrote out a cheque to Systemhouse buying back the piece of Interactive that had originally been the most famous part of the old Lachman Associates (UX No 220). He intends renaming this spin-out, so to speak, Lachman Technology Inc. Lachman, who can now claim the distinction of selling his company twice and buying it back once, quipped that he has personally established a new executive benchmark, transactions per year (TPY), having sold Interactive to SunSoft, Praxis to SunSelect, Interactive to Systemhouse and having bought back Lachman, all in the space of the last twelve months. The piece of Interactive that Lachman bought is its 17-year-old 60-man network software products and consulting operation, a revenue stream currently producing around \$9.8m a year. He intends continuing its work on Unix networking and the Unix file system and adding new products in Unix network file sharing and storage. He thinks he can grow the business into a significant piece of change, much of it coming perhaps from the Microsoft arena where, as much as Lachman is a self-admitted Unix bigot, he knows he has to enter. The rest of Interactive, consisting of its \$20m-a-year end user business, OEM consulting and old Unix porting operation, goes to Systemhouse to be collapsed into the rest of its US integration business. *Details, page 3.*

INTEL'S TROUBLED PENTIUM "IN SHORT SUPPLY ALL THIS YEAR"

Pentium chips will be on severe allocation throughout 1993 with no one company getting more than 5,000 or 10,000 units total, according to what Intel is telling its customers. These kinds of quantities will only go to Intel's best customers. Others will have to make do with deliveries in the tens or hundreds depending on who they are. The allocation policy is apparently the result of production difficulties. Sources however think that what will be delivered after the chip is finally announced, probably at the tail end of this quarter, will be the promised 66MHz units. Intel has had difficulty getting working parts over 40MHz and even at that reduced speed the silicon produced so much heat it required a heat sink and a fan (UX No 410). According to the current timetable, if development of Pentium's P6 successor chip stays on course, it could step on Pentium's toes. Intel is therefore reportedly telling its OEMs that the P6 will be purposely held back from the market, despite its state of readiness, to allow them to recoup their investment in Pentium. Last quarter Intel was openly talking about introducing the P6 at the end of '93 (UX 405). Thanks to Intel's vigilance, P6 specs are hard to come by. We hear they may be trying for 2.5 volts to reduce heat on the part. Interestingly, as we went to press, Intel stock had spiked 15 points in three days, some of it on the strength of a strong buy recommendation from Merrill Lynch, whose analysis underscored the strong demand for Pentiums.

NOVELL "NOT ALONE IN ITS BID FOR AT&T"

Novell wasn't AT&T's only chance to sell Unix off. At least one other investment group was raring to go. In fact they expected to meet with USL chairman Bob Kavner and lay their money on the table the week before Christmas, only to be caught off guard by the Novell announcement. Reportedly they were ready to plunk down \$426m, a figure Kavner pulled from the air at the end of a previous meeting when they offered \$385m. This group - and there were some sterling institutions reportedly among the participants - would have trimmed USL down to its core operating system, dumped the loss-making language sector, sold off the \$5m-a-year Tuxedo line that some insiders consider a crown jewel and cut back on ES/MP which everybody wanted and no one is buying. Along with the products would have gone a lot more of the people than USL cut loose right before it got bought. It will be interesting to see if Novell comes to any of the same business decisions once it takes over. *Full analysis - pages 2, 4 and 5.*

SEQUENT IN NT

SUPERSERVER PARTNERSHIP

Sequent Computer Systems Inc and a still-unidentified partner are developing a five-member Pentium-based symmetric multiprocessor line that Sequent will reportedly offer as a software development, application server and database platform for Windows NT. Sources who have gotten wind of the project claim it is important to Microsoft's efforts to push NT into the enterprise. An announcement, perhaps blessed by Microsoft, is expected the last week in January. Sequent determined some months ago that it should expand into the MP/PC superserver business based around NT (UX No 392). It publicly demonstrated the first NT/SMP version running on a 16-processor Symmetry back in August to help Microsoft allay reports that NT's SMP capabilities are severely limited and would require heavy re-architecting. The operating system however does require significant tailoring to run on SMP machines and Corollary is working to simplify the problem for a shrinkwrapped SMP NT (UX No 400). Sequent's new hardware will not appear on the market until Microsoft releases NT. It will be OEM'ing the three lower end boxes in the line from its partner under an arrangement that will give Sequent an exclusive in the NT space. These boxes will apparently be EISA-based and extend to six processors. Wyse and AST Research have been mentioned as possible candidates - Sequent's name has long been mentioned in conjunction with AST (UX No 371) - but most likely candidate appears to be Minneapolis, Minnesota-based Tricord Systems Inc. Sequent is believed to be shooting for well-tailored packaging, expandability and competitive pricing. The two larger machines are being developed by Sequent internally. NT currently supports a maximum 16 processors, although Sequent has been working with Microsoft to extend it to 32 (UX No 400). Sequent could start by offering Pentium upgrades to its current 486 machines and then move over to the new line. Unix lines will continue.

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UNIX WARS - NOVELL'S NOORDA COULD BE THE MAN WHO FINALLY BRINGS IT ALL TOGETHER

For the first time ever Unix is teetering on the brink of real consolidation, with all its hopes focused on a humble billionaire businessman who wears \$180 suits, plays golf with \$90 clubs from a discount outlet and bought Unix in time for Christmas. It's as though that's exactly the present the industry was hoping to find under the tree. More than just buying an operating system and securing a future for Novell, Noorda - a man held in high regard by a wide cross section of industry executives - takes on the expectations of all those seeing him as a Moses figure capable of stitching up the highly personalised wounds inflicted during the Unix wars and the aborted peace attempts. DEC perhaps captured the expectation best: "Do you think he could buy himself a plane ticket and go on a personal tour of all of us - IBM, Hewlett-Packard, Sun Microsystems Inc, DEC - and bring us together in kind of an Open Software Foundation II with all of the chief executives on the same dias saying the past is behind us?" The image is vivid, particularly so for end users who have begged the industry for years to consolidate, only to be ignored, then forced to retaliate by not buying.

And it's not just important to DEC who freely admits its whole strategy is dependent on a unified Unix and desperately needs last year's deal between OSF and USL on common Application Programming Interfaces to come to fruition. Hewlett-Packard says the only thing that makes Unix questionable at all is that there is more than one version. For the first time companies seem willing to bend a bit, maybe even give up a cherished shibboleth or two. Even Sun, which prides itself on its "belligerent consistency" or sometimes just on its belligerence, said it could see itself negotiating issues. NCR is talking about seizing the opportunity to form an effective user group that includes systems companies and customers. Novell has become famous for the way it manages its relationships and believes that relationships are the way to conduct business. But on the other hand, as much as Novell might be just the right tug boat to guide Unix to safe harbour, much of the industry's optimism stems from the fact that Unix is no longer in AT&T's hands. The hurts of the last years run so deep they just could not be solved with AT&T involved. HP vice president Wim Roelandts said flatly that it was because of the bad feelings built up when Vittorio Cassoni was running Unix that Unix isn't the dominant operating system today. As AT&T's Bob Kavner, soon to be USL's erstwhile chairman, says Novell's purchase takes the emotions out, leaving people to get on to the real issues. **Maureen O'Gara.**

Merger details must now be agreed

USL and Novell now have to work out a definitive merger agreement which includes defining exactly how free-standing and independent a subsidiary USL will be in the future. Doubtless insiders are writing white papers and politicking their points of view and doubtless Mr Noorda, reputedly a pit bull in business, will have his prevailing view. However, things are apparently still up in the air and OEMs are expected to gang up on the doorstep to get their two cents in. Otherwise, the lawyers have to sort out things like what rights are retained by shareholders, access to new revisions, compensation plans, employment contracts, shared AT&T/USL patents, pension plans and whether USL employees still have a right to go back to work at AT&T, an enticement used to get them to go to USL in the first place. One thing Novell needs to avoid is internal conflict over what it sells - otherwise it gets into DEC's position of having Unix on the books, but preferring to push its proprietary offerings.

Talks "on and off for a year", says Kavner

USL chairman, AT&T executive Bob Kavner, says he talked with Ray Noorda on and off over the last year about acquiring USL. Initially at least it wasn't what Kavner had in mind. Sometimes they went for two months without talking. Kavner isn't clear as crystal on what exactly changed his mind -- though he claims it wasn't the money - and claims not to know what persuaded Noorda to push it in November when it all started to happen.

Kavner says he assumes Noorda and company had been evaluating their options all along and finally decided to spend their resources on USL. Kavner figures that with the amount of money Noorda is spending he'll be pretty careful how he treats USL.

Bullish Microsoft plays the numbers game

Forty-eight hours after the Novell-buys-Unix announcement, Microsoft was out telling folks like The Wall Street Journal that it would sell more than a million copies of Windows NT the first year after it comes out. Microsoft didn't fail to make the point that it expects to take market share away from Novell because NT includes networking while at the same time trouncing Unix. It said it had sold 38,000 NT developers' kits to date. It's also telling people it was expecting to have an installed Windows 3.1 base of more than 8m systems at the end of '92. A Microsoft spokesman pointed to Novell's acquisition of DRDOS developers Digital Research, now almost completely subsumed within Novell, and predicted Unix would go the same way. He also claimed that high-end multi-processor and security features would be delayed by Novell concentrating on the desktop.

Sun and SCO evaluate their positions

Sun Microsystems president Scott McNealy was warned off making any trouble over the USL/Novell merger the morning of the announcement by AT&T. Perhaps that's why when Unigram.X spoke to him about it later that day he put a surprisingly good face on (UX No 417). Still it's hard to believe the young warlord won't rattle around in his armoury for just the right mace. Reportedly McNealy was the only one on the list of major USL customers contacted that day to squawk. The industry seems to think that Novell is now as much of a threat to Sun as the Open Software Foundation was. The Santa Cruz operation is another player potentially sidelined by the merger. Its recent moves to begin a reconciliation with Unix System Labs (UX No 413) now look more urgent than ever.

Industry gives thumbs up to the merger

Other industry reaction was mostly positive. Unisys Corp, ICL and DEC were all very happy to see Unix out of the hands of AT&T/NCR. IBM would not comment, but aside from the position of OS/2, it wins on the deal through its existing collaboration with Novell announced early last year. HP has also been getting close to Novell, and has been working on a NetWare implementation for its PA-RISC chip a move ahead of other players. Unix International spokesman Dave Sandel said he took at face value assurances that USL would honour its commitments to customers. The UI Roadmap, due to be revealed on February 11--12 at the UI members meeting in post-Mardi-Gras New Orleans, remains unchanged - it details both OEM wants and USL development commitments for future Unix technology.

SEQUOIA SEEKS A BUYER AS HEWLETT-PACKARD WALKS AWAY

Another would-be user of the Precision Architecture RISC, Marlborough, Massachusetts-based Sequoia Systems Inc has retained Broadview Associates LP as its financial advisor for its pursuit of a sale of all or part of Sequoia. Hewlett-Packard Co, which markets Sequoia's 68040-based fault-tolerant Unix machines as the HP 9000 Series 1200 line, has already backed off from investing new money to protect its investment in the company where it holds an 8% stake. Under terms of the agreement, Broadview will contact potential acquirers to ascertain their interest in investing in, or acquiring Sequoia, will participate in negotiations on behalf of Sequoia, and make recommendations for possible transactions with potential investors. Financing for Sequoia is necessary because of reduced revenues and operating losses during the past two quarters, and its default under its bank credit arrangement and liquidity difficulties. Samsung Electronics Co, Seoul, South Korea is Sequoia's other major business partner. After the most recent lay-off, which saw staff fall to 175 from 250, Sequoia says its Precision Architecture project will be late, but only by six months.

HEWLETT-PACKARD "IN TALKS WITH NEXT" SAYS NEW YORK TIMES

Hewlett-Packard Co has been holding talks with Steve Jobs' NeXT Inc about licensing the NeXTstep environment, according to a report last week in the New York Times. The report, citing three unidentified executives familiar with the talks, says that discussions originally extended to the possibility of HP making an investment in NeXT, and NeXT adopting HP's PA-Architecture RISC chip. These options were rejected by HP, however. HP is also known to be weighing up Microsoft Corp's NT, and the Apple/IBM Taligent venture. Most recently, however, it has been closest to Sun Microsystems on object-oriented technology, collaborating on the Distributed Objects Everywhere project. HP appears to have pretty much given up on its own object-oriented New Wave environment for Unix. NeXT, as ever, told Reuters that this is just one of a number of licensing deals it is discussing. It also said that its proposed floatation has been held back to late this year or early next.

SYSTEMHOUSE TAKES INTERACTIVE OFF EASTMAN KODAK'S HANDS

SHL Systemhouse, the new owner of the remains of Interactive Systems Corp - now minus the Lachmantech technology piece (see front page) - is targeting client/server computing and what it calls transformational outsourcing through its new buy, thinking competitor Anderson Consulting may be asleep at the switch. The Ottawa-based company has made a dramatic comeback from the brink of financial disaster the last couple of years. Now in the hands of a new management group and with Bell Canada a 25% shareholder, the 3,500-man company, while not yet solvent, claims 1992 revenues of \$739m Canadian. Losses for the year ended August 31 netted out to \$9.5m Canadian versus \$19.9m Canadian the year before. Eastman Kodak put Interactive on the block at least six months ago because it did not fit its core business interests. Interactive managers such as president Ben Salama and marketing vice president Ezra Goldman, both of which go with Systemhouse, were anxious to find a new owner because they could not depend on Kodak to provide the resources and critical mass needed to grow the business. Interactive, headquartered in Naperville, Illinois and with lines into accounts such as Motorola, Swiss Bank and AT&T, will function as the hub of Systemhouse's midwest region. Interactive's work with Kodak, recently helping to develop its new Photo CD product, will continue as far as several large imaging projects go.

DEC PLANS LOW-COST ALPHA FOR X-TERMINALS

There's an Ultra Low Cost (ULC) Alpha chip in the works at Digital Equipment Corp targeted at X Windows terminals, palmtops and embedded applications, according to the "Terry Shannon on DEC" newsletter that arrived on our desk on Christmas Eve. Shannon figures it's a 3W AXP implementation intended to run at 58.8 MHz and produce 40 SpecMarks. He also claims DEC and an unidentified partner are busy squeezing it into one of these new-fangled personal digital assistants or PDAs. He calls the widget a mainframe-compatible palmtop and hand-warmer in one. He thinks the ULC will also find a home inside the projected DECwindows Terminal III, DEC's first RISC-based X Windows terminal. With the chip stripped of floating point processor, large caches and TurboChannel/EISA controller support, he says Terminal III could be the first AXP platform under \$2,000.

...HOLDS OFF ON MULTI-ARCHITECTURE VMS

Shannon also suspects that R&D cutbacks at DEC are threatening its two-year-old effort to produce an architecture-independent version of OpenVMS. He says the project appears to be on indefinite hold. The sacrifice may be part and parcel of the wholesale downsizing of DEC's software empire now under consideration and another reason for software vice president Dave Stone to have fled (UX No 411). Such plans, which could put some software in maintenance mode and some in the morgue, don't appear to have affected DEC's flagship database Rdb which is reportedly being rewritten in C for OSF/1 and may also get ported to Windows NT.

...AS DEC SETS MAJOR RESTRUCTURING

A floundering DEC, now with six consecutive losing quarters blotting its once-sterling record, divided itself into nine strategic business units, as promised by its new president, a few days before Christmas. It is organising around five industry-oriented units and four products and services units. The first include: Health Industries; Discrete Manufacturing & Defense Industries; Communications, Education & Entertainment Industries; Consumer & Process Manufacturing Industries; and Financial, Professional & Public Services Industries. The four product units are PCs; Components & Peripherals; Storage; and Multivendor Customer Services. Five of the unit chiefs were also named including: Lawrence Cabrinety, VP Components; Charles Christ, VP Storage; Frank McCabe, VP Discrete Manufacturing; John Rando, VP Multivendor; and Willow Shire, VP Health. Restructuring of course has done nothing yet for DEC's oldest competitor and fellow sufferer IBM. Responsibility for hardware and operating systems now belongs to vice president Bill Demmer. DEC has collapsed once free-standing fiefdoms dedicated to Unix and NT, VMS, VAXs, microVAXs and workstations under him. Demmer is now clearly responsible for the engineering of all these products. However it is still unclear what DEC will do with the marketing arms attached to these units. Demmer has shifted Steve Jenkins, who had run Alpha Unix, to head up all Unix engineering, replacing Glenn Johnson who will now handle Unix product management and strategy. A DEC spokesman explained Jenkins' appointment by saying that, although the company will continue to support such non-standards as SCO Unix, it is striving for a single Unix thread built around OSF/1. Jesse Lipcon, who managed the Entry Systems Business Group and fathered the microVAX, is now responsible for NT engineering reporting to Demmer. Demmer in turn reports to VP Bill Strecker.

AT&T, NOVELL, AND THE SHRINK-WRAPPED SELL OUT

by Harley Hahn and Rick Stout

The recent letter of intent signed by AT&T and Novell in which they revealed their plans for AT&T to sell Unix System Laboratories (the home of System V Unix) is of enormous importance. No one doubts that the move will have significant lasting effects on the world of Unix and its relations. The big question is, what is likely to happen? In this analysis, we will look at this acquisition from both financial and technical viewpoints. We will show you some startling figures and elucidate some of the hidden motivations behind the scenes. In addition, we will discuss the trepidations in the technical community and offer our opinions as to whether these reservations are well founded.

To start, let's quickly recap the details. In early 1990, AT&T consolidated its Unix operations into a division called Unix System Operation. In April 1991, they spun off this division into a separate company named Unix System Laboratories. At first, all the USL stock was owned by AT&T, but, later in the year, AT&T sold a minority interest to other carefully selected companies. At this time, AT&T owns 77% of the outstanding stock, Novell owns 5%, and 11 other companies (including Sun Microsystems) own the other 18%. Novell proposes to buy out all the USL stockholders in order to own USL outright. But, rather than pay cash, Novell will issue about 1.1 million new shares of Novell stock and trade them for existing USL stock. No real money will change hands (we will see why in a moment). But when all is said and done, AT&T will be left sitting with stock valued at \$100m more than its current USL holdings. AT&T will own 3% of Novell's common stock but, according to Robert Kavner (AT&T Group Executive for Communications Products), they have "no plans to be involved in USL or Novell's operations or business decisions."

What Novell promises

Novell promises not to change the fundamental orientation of USL. The official Novell/AT&T press release says: "Novell recognizes and values the importance of UNIX as an open accessible technology to OEM partners and customers around the world. As part of Novell, USL's commitment to fair and neutral access to UNIX technology will not change." On the other hand, in another part of the press release, Ray Noorda (the President and CEO of Novell) makes a conflicting observation: "This acquisition is being done at the urging of customers who have asked us to support the UNIX system directly and integrate it more fully within the Netware environment." (*Is there anyone who actually believes that Novell decided to buy USL at the urging of Novell's customers? If so, we have some IBM stock options that you might like to buy.*)

The USL Numbers

AT&T is fond of saying that USL has annual revenues "in excess of \$80 million dollars." In fact, the 1992 revenues were \$91m. But, revenues are not profit. How much, if anything, does USL make from that \$91m? Is Unix a profitable business? USL is not a public company and they have chosen not to release their financial figures. However, we were able to obtain the results for 1989 through 1991, and they do not paint a pretty picture. The annual net revenues increased from \$58m (1989), to \$70m (1990) to \$77m (1991). However, during the same time, expenses increased dramatically. Research and development went from \$28m (1989), to \$30m (1990), to \$45m (1991), while sales and marketing expenses increased even more: \$14m (1989), \$17m (1990) and \$26m (1991). The most revealing numbers are the net income. In 1989, USL made \$4m on revenues of \$58m.

In 1990, they made only \$3m on revenues of \$70m. And in 1991, the last year for which we have data, USL sunk deeply into the red, losing \$29m dollars on revenues of \$77m. The retained earnings (cumulative profit and loss) were \$4.7m at the end of 1990 and -\$24m at the end of 1991. On Dec 31, 1991, USL had \$100m in assets, of which \$46m was cash. Whatever is left of these assets will, of course, be taken over by Novell. Although the 1992 results are not public, a highly-placed source at USL tells us that they did make a small profit last year (on revenues of \$91m). Moreover, they still have more than \$40m in cash.

The Novell Numbers

By just about any standard, Novell is a strong company. At the end of their 1992 fiscal year (Oct 31), they had total assets of \$1097m, of which \$260m was cash. Moreover, their liabilities were low. The total current liabilities were \$149m, the minority interest was \$8.9m, while the long-term debt was, remarkably, only \$0.5m. All this yields a shareholder's equity of \$938m (about 86% of total assets) which gives a low debt to equity ratio of 17%. Or, to put it in plain English, Novell is a wealthy company with negligible long-term debt and almost \$260m cash.

Why is the deal structured as it is?

A company like Novell, with such tremendous assets, has several choices when it comes to an acquisition. They can pay cash, out of their own reserves or by borrowing. In fact, Novell has the leverage to do just about anything it wants. Why then, did they choose to issue new stock to buy USL? Our answer is that they bought it for no money down because there were able to. Although they could afford to pay real money for USL, they were well aware that it was losing money and AT&T was highly motivated to make the sale. You may remember that AT&T's original intention in setting up USL was to one day spin it off as a separate company. It seems that USL could not stand on its own and AT&T's only alternative was to sell it. Now, how many companies can afford to buy an ailing operating system concern? Although Novell could have depleted its reserves to make the purchase, why should they? By simply issuing new shares (which, in turn, diluted the equity of the current Novell shareholders), they could have their cake, eat it, and keep their wealth. From AT&T's side the Novell offer is a godsend. True, they do not get any cash, but they get a big chunk of valuable stock and, most important, they get to leave the Unix business and stop supporting the big white Unix elephant. Do you think it bothers AT&T to jettison Unix? Remember Kavner's remark: AT&T has "no plans to be involved in USL or Novell's operations or business decisions." In our minds, AT&T wanted out and Novell was the White Knight. And when White Knights offer stock instead of cash, you don't quibble.

What's good for Netware...?

The technical community that uses Unix on a day to day basis has some valid concerns. For example, much of the Unix community is used to flexible networking under the openness of the TCP/IP umbrella. Although Novell does support TCP/IP in its UnixWare offering, the mainstay for its networking (and the bulk of its business) is provided by Netware's IPX/SPX protocols. Moreover, NFS, widely used in the world of Unix for resource sharing, can be viewed as a competitor to Netware. The main concern, however, is an overriding apprehension that what's good for Netware may not be good for Unix. True, Novell seems to be promising that life will go on much as usual. But there is no gainsaying the fact that Novell is a publicly-owned company whose primary responsibilities are to its shareholders. Novell has no compelling reason (nor should it have) to keep on paying for the fuel that burns in the Unix flame. In the long run, Novell must make a profit with USL and, if past performance is any indication, they will make a profit, no matter what it takes. As Larry Lytle, the main spokesman for USL puts it: "USL understands that it is naive to believe that in any merger nothing changes. The question is what will change and what will remain unchanged? You can expect that Novell is going to run this as a business and is going to want USL to be profitable. It is going to have a great deal of influence on the future of Unix because it is going to influence, for example, how we spend our money on research and development."

Conflicts of interest

All of which create some interesting conflicts of interest. For instance, what about all the companies that use Unix to build products that compete against Novell? They will now have to license Unix from Novell in order to compete against them. For example, the Vines operating system from Banyan, a direct competitor of Netware, is based on Unix. Every time Banyan sells an operating system, some of the money will go to Novell. There are many more companies that depend on their Unix licences just to build their products. It would be unrealistic to not expect to pay higher royalties in the foreseeable future. After all, USL has trouble making money, but USL under Novell will have to make money. Moreover, we should assume that future decisions about Unix will have to take into account what is good for Novell. Does this mean that System V-based companies should be concerned about their future? Absolutely. Maybe not today, or even six months from now, but somewhere down the road the interests of Novell will not coincide with the Unix world at large. It is unrealistic to expect Novell to spend money to develop Unix for the good of everybody at the expense of their own company.

New opportunities

Much has been made of the threat that Microsoft and NT might pose to Unix. The combination of Novell and Unix, the refrain goes, has a much better chance of countering this threat than USL by itself. However, such observations ignore the fact that a small but significant share of the marketplace is best served by Unix no matter what Microsoft is up to. The many Unix VAR's and resellers should probably be more concerned with the loss of a stable, independent source for Unix than with an imaginary NT monster. What we see is a brand new opportunity for OSF which, after all, offers the only large-scale alternative for a vendor-independent Unix-like operating system.

It would be prudent for those Unix vendors who have not already made the switch to take a strong look at OSF. There is also an important opportunity for the Mark Williams company, who sells their Unix-like operating system (Coherent) for \$99. Coherent can run System V binaries and may provide a viable, inexpensive basis for VAR's who sell vertical applications.

Winds of Change

Although we can't predict the future in detail, we can say that the winds of change are blowing ever more strongly. Novell is so rich that the Unix acquisition is relatively small potatoes. One way or the other, they can afford to do whatever they want. The financial results for USL seems to indicate that supplying System V to the world is not a good way to make money. If so, there is no reason to expect Novell to keep subsidizing Unix out of altruism. The trouble is that we live in a part of the world in which many people depend on Unix - not to fight Microsoft and NT, but to earn their living - and there are too many unknowns. As we see it, the onus falls squarely on the shoulders of Ray Noorda. As Novell consummates the deal with AT&T, there should be guarantees made as to the future of Unix. These guarantees should be in writing and should be made public. Moreover, Noorda must finally set up a line of succession and give us some indication of how Novell (and Unix) will function when he bows out. It's not that Novell has any moral or financial obligation to be the keeper of the Unix flame. It's just that people have to make plans. Vague, contradictory statements of intent are not enough. It certainly behooves companies dependent on System V to reevaluate their future.

Harley Hahn is an analyst and writer based in Santa Barbara, California. He is the author of many books including "A Student's Guide to Unix", published by McGraw-Hill College Division. Rick Stout, CPA, is an analyst and writer based in San Diego, California. With Hahn, he is the author of "Power Shortcuts, Quattro Pro from Windows", published by MIS Press.

X/OPEN LOSES OKI - BUT HOPES TO GAIN NOVELL

While X/Open Co Ltd welcomed Novell Inc's letter of intent to buy Unix System Labs Inc, it was apparently not impressed enough to let them carry over USL's membership by default. According to X/Open, it is looking forward to re-negotiating membership terms with Novell - and more to the point membership fees. X/Open said it very much hopes Novell will join its menagerie, but hinted it would have to pay a significant amount for the pleasure. The actual terms of the membership have not been revealed, so it is unclear whether Novell will purchase two memberships or keep USL's membership with a re-negotiated fee. Further details were unavailable at press time, as X/Open staff worldwide were taking part in a brainstorming session, somewhere in the wilds of Devon in the UK. But the organisation may be in dire need of the fee following Oki Data Electric Industry Co decision to leave the X/Open consortium over Christmas. The company said it could no longer afford the £320,000 membership fee and claimed open systems standards were widely enough accepted for it to leave. Oki also announced that it is changing its membership within Unix International from an official member to a general member.

WAVETRACER SHUTS HARDWARE BUSINESS

Wavetracer Inc, the Acton, Massachusetts-based manufacturer of low-end massively parallel processing systems, has closed down its hardware business after investors pulled the plug and refused to invest further capital. Wavetracer launched its desktop single instruction multiple data (SIMD) data transport computer system a year ago (UX No 379), discontinuing its old custom one-bit systems at the same time. But it suffered from aggressive marketing by established players such as Cray Research Inc and Convex Computer Corp, and has now laid off "a large percentage" of its workforce, and shut down sales, marketing, manufacturing and support operations. Support for the 35 Zephyr systems out in the field is likely to be sold off or subcontracted out. It now hopes for a future in the software design and systems integration market for massively parallel systems, but aside from an image processing library has no obvious product ready, and would not elucidate further. It expects to present a new business plan to its board by the end of the month. Whether the investors are prepared to support the migration to software remains uncertain.

AGE SHIPS FIRST 32-BIT X-SERVER FOR NT

Pre-empting the release of Microsoft Corp's NT later this year, San Diego, California-based Age Logic Inc begins shipping its 32-bit X-Window server software for Windows 3.1 this week, claiming to be first on the market. Based on MIT's X11R5 server code, Xsoftware/32 for Windows 3.1 enables users to concurrently run and display Microsoft Windows and X Window applications on the same personal computer, and includes automated host login through an icon, a multi-process start-up system for opening multiple clients simultaneously, automatic font substitution and a graphics slide scale. Age hopes its early move will gain it market support ahead of competitors such as Leeds, UK-based Visionware Ltd and Ontario, Canada-based Hummingbird Communications Ltd, both of whom intend to release similar 32-bit products once NT emerges. But a Visionware official said "there doesn't seem to be much point shipping a 32-bit designed piece of software to run in a 16-bit environment. Users will find requests take much longer in normally very simple operations." The main problem lies in the amount of translation the software will have to do to read the 32 and 16-bit system calls both at the software and network level, Visionware said. Xsoftware/32 is available now, and is priced at \$595.

PEREGRINE ADDS MANAGEMENT TOOLS

Peregrine Systems Inc has extended its PNMS mainframe management software with a new component - PNMS Client/Server - to tackle multi-vendor Unix machine management as well as IBM Corp MVS mainframes. Andrew Walley, UK sales director of the California-based company, says PNMS was developed on a Unix machine in 1980 but commercialised for MVS because the Unix market was still immature. He says the launch of PNMS Client/Server follows management problems experienced by IBM mainframe sites with their integrated Unix systems. The product runs on IBM, Hewlett-Packard, Sun and Sequent Unix servers or on the mainframe, and Peregrine plans to support all Unix versions. It incorporates PNMS features such as financial management and Help Desk facilities. At the low end, PNMS Client/Server supports multiple workstations and personal computers running X Windows, Motif, OpenLook and MS Windows. Walley claims a unifying tool in a mixed environment is needed because "it's too expensive to support individual parallel worlds". PNMS has 15 UK customers, 400 worldwide. Peregrine is aiming to have 10 UK PNMS Client/Server customers by end 1993. Pricing starts at £3,000.

AMDAHL'S HURON HELPS DOWNSIZERS

Amdahl Corp appears to be positioning its Huron application development environment as an escape route for downsizers moving from the mainframe. The company says Huron does have a role as a migration tool for both UTS Unix and MVS mainframe applications moving down to mid-range Unix platforms, including its own multi-processing Unix machines currently under development. Amdahl hopes to eventually supplement its dwindling mainframe income with revenue from these Sparc-based machines, expected to ship at the end of 1993. These will replace Amdahl's moribund 7300 Unix machines, according to Ken Gorf, Amdahl's UK marketing manager. However, Peter Bakalov, US vice president of Huron marketing, said downsizing was only one aspect of Huron's role. He said the whole message of Huron was platform independence and the ability to develop applications in one environment, then port them to another. Developed for MVS mainframes, Huron has already been ported to Intel 80486 machines, with an IBM RS/6000 version due in the first half of this year. Despite the company's \$24m third quarter loss, Bakalov said the company's core business remains with mainframes. Amdahl favours a mix of technology, integrating mainframes with multi-processing Sparc systems rather than ditching mainframes altogether. Bakalov said Huron version 1.18, expected in Q2 1993, will support Motif for the first time as well as the RS/6000, improved buffers support for larger numbers of terminals, Oracle server (Unix) and DB server (MVS).

IBM TO SHIP DCE PRODUCTS THIS MONTH

IBM's first Distributed Computing Environment-compliant products combined with its partner Transarc Corp's Encina transaction processing system are due to be shipped by the end of this month - but without IBM's Distributed File System component. The software will initially run on both client and server IBM RS/6000 AIX-based systems, with other platforms to follow. The software includes Base Services/6000, which supplies the basic DCE functions such as remote procedure call and threads for multi-processing, and also DCE cell directory server and security server software. The Encina-based transaction processing modules sit on top IBM's DCE services as a server component, allowing users to develop their own transaction manager or integrate IBM's CICS/6000 TP manager. Encina services include two-phase commit, a structured file server, a transaction monitor and client-to-host communications. A key feature missing from the list is IBM's DFS Distributed File System which, it says, won't be available until June. According to IBM, DFS - which enables an assortment of files on a network to look and act as if they were local - is up and running in the labs and is scheduled for beta test by the end of the first quarter. IBM cites rescheduling problems as the reason for the delay. The price of the base DCE license costs from between \$150-\$2,400 depending on the number of components chosen. Encina modules are priced at between \$400 to \$1,800 for low end RS/6000 machines and reaching to \$3,200 - \$14,000 at the high end. Both the DCE and Encina software have annual license fees as well.

AT&T NOVELL COOPERATE ON TELEPHONY

Aside from the USL/Novell merger, AT&T and Novell have also reached a separate agreement to co-market products that link their core businesses: computer networks and business phones. Novell said its discussions with AT&T over USL led the two companies to consider this and several other areas of synergy, which they declined to innumerate. The tie-up could send a chill through Bill Gates since it gives Novell an interesting point of entry to the enterprise. The technology will take advantage of existing phones systems and computer networks and won't require wiring or new boards to connect the each phone and micro. Telephony Services will be accessible from MS-DOS, Windows, OS/2, Macintosh and Unix. First products are due this year.

McDONNELL DOUGLAS LETS INFORMATION SYSTEMS ARM GO IN A BUYOUT

McDonnell Douglas Corp has given up on its idea of floating its McDonnell Douglas Information Systems International Ltd Pick and Pick-under-Unix business on the London International Stock Exchange, and instead has agreed in principle to sell it to its management, who will retain effective day-to-day control, backed by a few blue-chip investors including Baring Capital Investors Ltd. Terms of the agreement were not disclosed, but observers say the deal must be worth over £200m. Originally structured around the old Microdata Pick-compatible systems business, the Hemel Hemstead company is now primarily a systems integrator, software and services company, buying up to 70% of its hardware from OEMs such as Encore Computer Corp. It employs about 1,800, 1,300 in the UK, and also operates in continental Europe and the Pacific Rim. It has been profitable on annual turnover of about £180m - \$270m - over the past few years. Flotation is still not out of the picture, with 1994 being forecast as the big year. Three environments, are on the cards, comprising a payroll and personnel system; an international banking system, and an object-oriented fourth generation language. They are aimed at customers migrating from IBM Corp mainframes to client-server environments. The software runs on IBM AS/400s and mainframes, DEC VAXes, and any version of Unix System V. No staff will be lost, and the company will still invest about 13% of its revenues on the research and development of applications software for its niche markets - which in the UK are the National Health Service, central and local government, the police force, plus libraries and banks.

IBM "TO CREATE TWO PARALLEL RS/6000 PRODUCT LINES"

Circumscribed by the injunction - voiced or not, that the machines built around it should not pose a threat to IBM Corp's proprietary product lines, the designers of the Power RISC created a chip that was heavily skewed towards scientific and technical applications - but the IBM world has changed out of all recognition since then and the RS/6000 is at least as widely used in commercial applications as in technical, while IBM is finding it increasingly hard to sell proprietary systems. Accordingly, reports the January edition of our sister publication in the UK, IBM System User, the company is planning to come out with parallel lines of RS/6000s, with the present models and their derivatives assuming a T for Technical subscript, while a new line, based on versions of the PowerPC, will carry a C for Commercial tag. The parallel lines will retain binary compatibility so that all applications written for either will run unchanged on the other, but the PowerPC is optimised for database and transaction applications. The commercial line will include large multiprocessor servers.

INTEL SAYS JUPITER WAS A MISTAKE, SELLS IT ON

Intel Corp has decided that its 1989 acquisition of universal communications processor manufacturer Jupiter Technology Inc (UX No 240) was a mistake, and it is letting the company go in a management buyout backed by a private investment group. Terms of the transaction were not disclosed. The Waltham, Massachusetts company had 50 employees when Intel bought it, but it is now down to 30. The company will be renamed Jupiter Communications Inc. The buyout is led by founder Kenneth Ingham, who left the company in 1989. Intel had hoped to exploit synergy between Jupiter's multi-protocol communications CPU, which runs under a real-time Unix-like operating system, and its own Fastpath channel-to-channel communications system.

NEC IN TALKS TO MARKET CONVEX MINISUPERS IN JAPAN

In a surprise move, NEC Corp has approached Convex Computer Corp and proposed that it market the Convex C3 minisupercomputers in Japan to plug the gap below its own SX3 supercomputers. Despite NEC's adherence to the MIPS Technologies Inc R-series RISC, which it fabricates, the move seems to move NEC inexorably towards the Hewlett-Packard Co Precision Architecture RISC camp, because Convex plans to use the part in forthcoming parallel machines, and NEC already markets the Stratus Computer Inc fault-tolerant machines in Japan - having chosen the ill-starred Intel Corp 80860 as the basis of its first generation of RISC machines, Stratus plans to use Precision Architecture RISCs in future iterations of its systems.

HITACHI SAYS IT'LL BECOME AN INVESTOR IN KALEIDA VENTURE

Meanwhile Hitachi Ltd says it is to join Kaleida Labs Inc, the joint venture between IBM Corp and Apple Computer Inc to exploit multimedia technology. Hitachi was one of six Japanese companies invited to invest in Kaleida (CI No 1,931), and of the other five, only Toshiba Corp has so far stuck its head above the parapet with an agreement with Apple to license Kaleida technology and use it in jointly developed products; others invited to join were Matsushita Electric Industrial Co, Sharp Corp, Sony Corp and NEC Corp.

KUBOTA TO DESERT MIPS FOR DEC'S ALPHA

Kubota Corp, whose Kubota Computer Co unit builds its Titan graphics computers around the MIPS Technologies Inc R-series RISC, and also manufactures Tricord Systems Inc's 80486-based servers under licence, says that it will eventually stop using both processors in favour of Digital Equipment Corp's Alpha RISC. Kubota was the very first to declare for the Alpha RISC, and the Japanese farm equipment manufacturer says it plans to market DEC computers in Japan and the US. Kubota has significant shareholdings in both Tricord and Silicon Graphics Inc, parent of MIPS. "We see DEC's Alpha chip as the choice for the next generation of computers," Kubota said, suggesting that the expanded agreement with DEC will be completed later on this month.

VERSANT SHIPS OBJECT DATABASE FOR NEXT AND OS/2

Versant Object Technology, Menlo Park, California, has shipped its ODBMS system for NeXT boxes, developed in combination with NeXT customer WilTel. It is the first commercially available ODBMS on NeXT. Its selling for \$2,000 until the end of the quarter. Versant has also just shipped its stuff for OS/2.

...AS ONTOS SHIPS DISTRIBUTED MULTI-MEDIA PLATFORM

Last month Ontos was expecting to ship its Distributed Multimedia Platform and toolkit, co-developed with IBM, targeting large-scale high-volume multimedia applications. The package include a distributed ODBMS, low-end PC connectivity to 386-based boxes, a multimedia class library and extensions to support mainframe connectivity through IBM's Workstation LAN Files Services. It supports configurations of OS/2 servers, running on a Novell network, serving OS/2 or DOS clients. It is planning to charge under \$5,000 without the Ontos DB.

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The Weekly information newsletter for the UNIX ® community worldwide

Open Systems Today asked Dennis Ritchie, one of the creators of Unix, what he thought of the Novell/USL deal. For an answer he quoted them Genesis 25:31-34 and Hebrews 12:16-17. That's the bit about Esau selling his birthright to Jacob for a mess of pottage. Guess we kinda know now where he stands on the issue.

One of our tried and true sources claims **Sun Microsystems Inc** managed to move 2,000 of those nettlesome 40MHz Viking-based Sparcstation 10 Model 41s out of the door by the end of the year. These were the ones giving them so much grief because of low chip yields (UX No 412, 413). Even this better-than-expected showing, however, doesn't do that much for Sun's margins because it had to promise free MP upgrades.

Unix System Labs has reportedly been trying to sell off C++ for the last six months, but can't get **Borland International** to bite.

Now that **IBM Corp** is in long-term decline, evolving into just another big company like **Xerox Corp** or **General Motors Corp** that has seen much better days, market-makers are looking for another bellweather to signal the direction of the entire market, the **Wall Street Journal** reports. The general feeling is that no one company fits the bill, but the combined market capitalisation of **Microsoft Corp** and **Intel Corp** now exceeds that of **IBM** by 50%, and one well-supported suggestion is a triumvirate of Microsoft, Intel and **Apple Computer Inc** - in other words **IBM's** former strategic partner. The company where it once held over 20% of the equity, and its current desktop partner - as analyst Hesh Wiener comments, in mythology, the gods eat their children, in computers it's the other way round.

John Kemeny, co-creator with **Thomas Kurtz** of the Basic computer language at **Dartmouth College**, has died of a heart attack in **Lebanon, New Hampshire**; he was 66.

A decade ago, **NEC Corp** surged past **Motorola Inc** and **Texas Instruments Inc** to become the world's largest chipmaker, and **Japan** has held the title ever since - until 1991, when according to **Dataquest**, **Intel Corp** grew 26% to win it back for the US.

Sequent Computer Systems Inc shares fell \$1.75 to \$19.125 late Monday last week after the company said **Jay Richards** resigned as chief operating officer and senior vice-president: he says he's off to pursue other interests.

Apple Computer Inc has lost **Roger Heinen**, head manager of the **Macintosh Software Architecture Division**, responsible for **Macintosh System 7**, to **Microsoft Corp**, where he will become **VP Database and Development Tools**; president **Michael Spindler** will take his post until a replacement is named.

When **IBM** stock hit bottom with a such resounding thud last month it cost its shareholders more than \$6 billion, 17.5% of total capitalisation. Class-action suits have already been filed.

Cyrix has a microprocessor code named **Spike** under design that it hopes to drive through the heart of **Intel Corp's** **Pentium**. Expected in the last half of 1993, the company is intent on doubling **Pentium's** performance and moving three instructions through the 2.2m transistor chip every cycle. **Cyrix** told **The Dallas Morning News** it thinks **Spike** will propel its sales to \$300m in '94 from \$75m in '92. The company reportedly also has a version of **Spike** called **M-1**, short for **No 1** microprocessor, that it's aiming against the **Sun/Texas Instruments SuperSparc, Viking**.

Alex Brown & Sons financial analyst **Mark Stahlman**, who coined the phrase network computing, has charged **IBM** with leaning on **The Harvard Business Review** hard enough to make it pull a 10,000-word article he wrote for the January issue on "Why IBM Failed."

The developer of the new **SunClassic** workstation **Todd Basche** told **SunWorld** that, although **Sun** has barred **Solaris 1.x** on it, "there is nothing intrinsically in the hardware that requires **Solaris 2.1**."

Computer Users of Europe (CUE), a user group that's been around for some time on an informal basis, has gone official: it has drafted a constitution and has a steering committee working on making it formal. No suppliers need apply, **CUE** accepts only users and its aim in life is to form a united front of users against the tyranny of the industry: call **Rob Briggs** +44 273 481859.

Hewlett-Packard Labs and **AT&T Microelectronics** have co-developed what they believe is the first technology to transmit data at 100 Mbits/s across existing voice-grade unshielded twisted-pair cable. The **IEEE's** 802.3 networking standards committee will be asked to form a study group to examine the cost-containing solution.

Intel Corp is reportedly getting worried over the resources of its traditional vendors to weather market upheavals. As a result it's supposedly eyeing the server contingent more seriously and is likely to strengthen its association with the **Hewlett-Packard** and **Digital Equipment Corps** of the world.

DEC is saying that 400 of the 900 software packages announced for **Alpha OSF/1, OpenVMS** and **NT** platforms will be shipping by **March**: a total of 2,000 programs have been committed to **Alpha**.

As expected, **Tadpole Technology Ltd**, **Cambridge**, will ship its latest **Sparcbook 2** offering in February. The 40MHz **HyperSparc Cypress Semiconductor Corp**-based notebook comes with 16Mb **DRAM Snd** 250-500Mb disk, **SCSI 2** drives, **DC-ROM** and **DATD** drives, **NFS** support, **X Windows 11** graphics and **Open Look** interface. **OpenWindows** and **Sunsoft Inc's** **Deskset** tools are bundled. It initially runs **Sunsoft Inc Solaris 1.0.1** - **Solaris 2.1** will be available as a no cost option within 90 days, **Tadpole** said. The **Sparcbook 2** is priced at £9,125.

Rogue Wave Software Inc has acquired the C++ class library interface to relational databases that **Glockenspiel** marketed in Europe as **Commonbase** and the **Qualix Group** distributed in the US as **db++**. It has renamed the stuff **DB.h++** and will continue reseller relationships with **Computer Associates**, now that it's bought **Glockenspiel, Qualix** and **ImageSoft**. **Rogue** distributes through **HyperSoft Europe Ltd, Hassocks, West Sussex**, in the UK and Ireland: +44 273 834596.

Apple Computer Inc, IBM Corp and **DEC** have cut their prices 40% in **Japan**, making things highly uncomfortable for microcomputer leader **NEC**.

The **St Petersburg** police department in **Russia** is going to use **Empress Software's** **RDBMS** and **4GL** to develop a multimedia criminal identification system, the company says. It will run on an **AViiON 4300** file server and **Unix-capable PCs**. It is being supplied by the **Russian** arm of **Intelligent Resources International** in **Reston, Virginia**.

In a deal worth \$700,000, **Sun Microsystems Inc's** **SunPro** unit has struck a deal with **National Algorithms Group Ltd** for the UK, **Oxford-based** outfit's **Fortran 90** technology which **SunPro** will use to update its **Fortran 77** compiler and developer environments. **NAG**: +44 865 511245.

Objectivity Inc has lined up **Micram Microelectronic GmbH** to distribute its object database in **Germany**.

A fourth woman has joined the civil suit lodged against the **Santa Cruz Operation** and its former president **Larry Michels** charging sexual harassment and seeking monetary damages (UX No 415, 416). The woman was a temporary secretary reportedly assigned to the executive pool. Unlike the others, her charges stem from **Michel's** alleged behaviour off-site and after her employment at **SCO** was over. The suit forced **Michels** to resign all his posts at **SCO** right before **Christmas (UX No 417)**. The company says he is now in the position of a passive investor, owning about 16% of the stock. **Microsoft** owns another 16%; **Larry's** son **Doug** 20%; the employees 22% and other investors 26%.

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ICL TAKES PYRAMID BUS FOR NEW HIGH-END SUPERSPARC BOXES

ICL Plc is to announce a technology transfer deal with Mountain View, California-based Pyramid Technology Corp that will result in Pyramid's three-schema, symmetric multi-processing bus architecture being incorporated into new ICL SuperSparc-based machines expected in 1994. The new kit will come in well above ICL's existing high-end, the eight-way DRS6000 700 which supports 500 users. Under the agreement, ICL also gets access to Pyramid's operating system technology. The deal, said by sources to be "very valuable to Pyramid," will also allow ICL to OEM the company's high-end MIServer ES machines - this follows on from an informal Pyramid-ICL sales teaming that has been operating in the UK for the last few months. Although Pyramid's architecture is based on the Mips RISC chip, both companies use Unix SVR4. Peter Stuart, ICL's vice president of business development, said the OEM arrangement "will fulfill occasional specific customer requirements". Although the bulk of ICL's revenue comes from its mid-range Unix servers, Stuart says the company hopes to make more impact at the top end when the new machines arrive. Pyramid claims its three-bus architecture - with separate CPU, memory and input/output buses - is unique.

APPLE "READIES TOOLBOX FOR AIX, HP-UX, SOLARIS"

Reports filtered out of the latest MacWorld in San Francisco about an Apple Computer Inc project, code named Cat in the Hat, that aims to port the Apple ToolBox, Apple's crown jewels, the source of the Mac interface, over to IBM Corp's AIX in six months, to Hewlett-Packard Co HP-UX in nine months and to Sun Microsystems Inc Sparc machines after that. Apple apparently considers it a way to expand its software to a new population of a million machines. The Cat in question of course is the Dr Zeuss character who had all manner of surprises in his Hat for the delight and amazement of tiny tots everywhere.

IBM SETS 64-CPU RS/6000 PARALLEL MACHINE FOR FEBRUARY 2

IBM Corp has a busy February lined up, and not content with mainframe kickers expected February 9, and AS/400 F models February 16, the company has inked in February 2 for an array of new RS/6000s. As well as improved system performance and graphics flexibility for the mainstream Powerstations and servers, the company is planning to announce as a product its "scalable, parallel processing system," previewed in Minneapolis in the autumn (UX No 412). That's the eight-to 64-processor machine that delivers a theoretical 6 GFLOPS peak with a full complement of processors. Each CPU can have as much as 256Mb memory and 2Gb disk. IBM already has a very modestly parallel four-CPU system, the Shared Memory System Power/4, available on special bid since December 1. There will also be a data server, although what differentiates that from a Powerserver is not clear - multiple processors perhaps (UX No 418).

NOVELL TO ADD HYPERDESK DOMS TO NETWARE, BUY 20%

Novell Inc has followed its move to take over Unix System Laboratories Inc with the purchase of a 20% shareholding in object-oriented software specialist HyperDesk Corp to seal a deal under which it will use the Westborough, Massachusetts company's Distributed Object Management System to provide an object-based interface to services and resources within the NetWare environment. The Provo, Utah company says the addition of the software will make networked applications simpler to write as well as easier to update and maintain, without the need for major rewrites, and that applications based on HD-DOMS technology will have the advantages of being interoperable across diverse computing environments and tightly integrated into NetWare's distributed network services. Novell will bundle HD-DOMS as NetWare Loadable Modules with NetWare 3.X and future releases, and plans to make its core and extended NetWare services HD-DOMS-ready, providing developers with a single, uniform object-based interface for all clients, eliminating the need for developers to use a number of different interfaces for application development. The system is language-independent, so that developers can use object-oriented or earlier generation languages as they choose. Novell says it will also work with HyperDesk and the Object Management Group to ensure that these interfaces remain compatible with future industry standards. The Distributed Object Management System is based on the Object Management Group's Common Object Request Broker Architecture and as currently defined will support MS-DOS, Windows, NetWare and Unix. Novell paid an undisclosed cash sum for 20% of HyperDesk, gets an option to appoint a director, and agreed multi-year research, development and product support agreements.

SPECIAL INTRO PRICE FOR NT

Microsoft Corp says it plans on slapping a special introductory price on desktop Windows NT when it finally appears, a tactic bound to increase the force of the tidal wave when it hits. Without committing itself to any firm numbers yet, the company made an analogy to its new database, Access, which lists for \$495 and was discounted to \$99 for its debut. Microsoft's director of Windows NT and networking products Dwayne Walker indicated desktop NT could appear at \$500 list and hit a street price of \$300, given reseller discounts of 40% to 50%, once the introductory price expires. Walker said he never expects to see demand again such as Windows inspired. However, he claims demand for Windows NT is twice what Windows was at the same place in the roll-out schedule. He says Microsoft now has 45,000 NT developer kits in the field in twenty countries and expects to have 50,000 out just prior to launch. When Windows was in the same place it only had 25,000 kits out. Meanwhile, the company is still trying to slim down its chubby baby NT, trying to get the client side to run in 12Mb RAM and the server in 16Mb on the theory that the typical user will have 4Mb more than the minimum.

...DUE AT COMDEX SPRING

Microsoft has yet to acknowledge it officially, but we understand it will be rolling out Windows NT at Spring Comdex May 24-27 in Atlanta, just as we thought (UX No 412). Windows World, which is effectively Microsoft's booth there, is spread over two halls and we're told to expect a cast of thousands of independent software vendors in supporting roles. Meanwhile, Unix System Labs has negotiated a Unix showcase area squat at the front door of the conference centre. The first exhibitor to sign on is DEC. USL and the exhibit's manager, Interface Group, will both be trying to round up other interested firms. Apparently the amount of space dedicated to it is expandable according to interest. Hopefully the Unix industry will make some kind of manly showing. It would be a pity if the site of General Sherman's March to the Sea becomes equally famous for Gates' Rout of Unix. Call Susan Hicks at The Interface Group for space. +1 617 449-6600

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NEURON DATA SNARES IBM, PLANS MIX AND MATCH APPLICATION DEVELOPMENT ENVIRONMENT

by William Fellows

Palo Alto, California-based interface specialist, Neuron Data Inc, has won the biggest feather in its cap to date, securing a deal with IBM Corp for version 2.0 of its Open Interface builder launched last year (UX Nos 386, 408). Using Open Interface, independent software vendors (ISVs), value added resellers and corporate customers can develop a single graphical front-end for applications which will run under a variety of graphical user interfaces (GUIs), including Open Look, Motif, Presentation Manager, Windows, Windows NT, VMS and Macintosh. According to Neuron Data, IBM will be using Open Interface to develop front-ends for software which it will offer across a range of platforms, including AIX, OS/2, Windows NT and Macintosh. The two year deal took nine months to negotiate, according to Neuron Data chairman and chief executive officer Patrick Perez, and is worth a little more than the company's entire turnover for the month of December last year - see below. Perez says his company also has a deal with American Management Systems Inc, Arlington, Virginia, in the offing. AMS, in which IBM has a 10% stake, will be revamping its mainframe software for a range of environments using Open Interface. Ironically AMS was home to Neuron Data competitor Visix Software Inc until Visix was spun out as a separate concern back in 1988. Alongside its Looking Glass desktop manager, Visix now also offers Galaxy, an environment for developing front-ends for applications.

4GLs, database access

Neuron Data, better known for its Nexpert expert system until it re-invented itself as a GUI development outfit, plans to push on into what it sees as a burgeoning market for software which can make an ISV's job designing solutions which work across heterogeneous environments much easier. Perez says Open Interface will evolve into what he calls a comprehensive universal development environment. It will retain existing GUI functionality but will also feature one (or more) fourth generation languages (4GLs) alongside application programming interfaces (APIs) to a variety of database access schemas. Perez insists the resulting environment will be fully compilable, accessible from the GUI, 4GL or C/C++ language level and will support many more linking tools, all using point and click and drag and drop operations. Perez expects the resulting software to resemble Uniface Corp's 4GL development environment - but with "real" GUI functionality and more database connectivity and 4GL options. The company will strike deals with third parties for most of the new components. Perez hints at a tie-up with Information Builders Inc for its Focus 4GL (possibly the EDA/SQL middleware for accessing various databases too). He also talks of supporting the SuperNova application development and database access language jointly developed by Edison, New Jersey-based Four Seasons Software Inc and Dutch firm Transmediar, as well as Microsoft Corp's Cirrus Visual Basic front-end for databases (now called Access) and Open Database Connectivity API. The new components will be provided in Open Interface as additional libraries - Perez estimates it will take three months to package each new library into the environment. He welcomes the current industry trend for acquisition, saying it creates yet "more pain for ISVs" and therefore more potential business for Open Interface technologies.

Nexpert 3.0, Open Interface 2.1

Before the company begins to move on its new goodies, it has Open Interface version 2.1 to get out of the door. Due in May, it will feature some new editors and linking facilities, object-oriented wrappers and internationalisation features such as the ability to generate Kanji front-ends. Before that, in April, a new version of Nexpert will be unveiled. It's the first new release of the expert system for more than two years and Perez promises updated versions every twelve months from now on. Nexpert 3.0 will feature a direct link to Open Interface, the ability to attach a variety of object-oriented methods and modules and enhanced performance. Perez says he is well aware that expert systems haven't lived up to the promises and claims that were being made for the technology three or four years ago, but claims Neuron Data was well aware of its limitations at the time and was already busy putting Open Interface together.

Public offering

Privately-held Neuron Data, which turned over \$1.9m last December expects to have done some \$20m in total by its year-end in March. Revenues are now split 60%-40% between the Open Interface and Nexpert product lines. The company is looking, ideally, at an initial public offering next year and says it will expand upon its plans this June. That's if no-one steps in meantime and makes an offer that can't be refused (by the way, an offer from Oracle Corp was turned down in 1990).

UK operation

Perez has poached Steve Ross from Ingres Corp in the US to head up a marketing drive as vice president of sales, and has recruited Pany Christoforou - formerly finance and banking branch manager at Ingres UK - to become managing director of a wholly-owned UK subsidiary based in London. Neuron Data's UK operation replaces the distributorship arrangement it previously had with Data Sciences Ltd. Although the UK market has only been contributing some £15,000 a month or so to the company's coffers, Christoforou expects to appoint half a dozen sales staff by April and says he will be looking for the outfit to turn over £2m plus in its first year. A French subsidiary which does some development is already up and running in Paris with 12 employees - a German operation will follow. Existing continental distributors are to be retained.

NEW OBJECT TOOLS FROM SES

Austin, Texas-based SES Inc introduced last week, SES/Objectbench, an object-oriented analysis toolset for analysts and programmers developing analysis models for technical machines. SES/Objectbench comprises two products: the first is a graphics modelling tool for developing object analysis models. The second is an animated simulator for examining the dynamic behaviour of the models. The company says it will release statistical analysis software later in the year. The software will be available on Sun Microsystems Inc Sparcstations in March - support for IBM RS/6000 and Hewlett-Packard 9000s will follow later in the year. SES/Objectbench graphics modelling module is priced at \$4,900 and SES/Objectbench Animated Simulation costs \$14,500 per user.

INSIGNIA HAS SOFTPC 3.0 FOR SGI WORKSTATIONS

Insignia Solutions Inc, the Mountain View, California and High Wycombe UK-based PC emulation specialist, has introduced a version of its SoftPC product for the Silicon Graphics Inc line of workstations and servers. SoftPC 3.0 for SGI Iris 4D systems, which use MIPS R3000 and R4000 RISC processors, comes with Microsoft Windows 3.1 and MS-DOS 5.0 pre-installed. It also supports cut and paste between X-Window and Microsoft Windows applications, and is the first version of SoftPC to support sound emulation. SoftPC emulates 286-based PC hardware in real or protected mode - and the 80287 maths co-processor - within the software, and has specially written display and mouse drivers which translate Windows display and mouse instructions into the native X Window environment - boosting the speed of Windows applications to that comparable with 80386 hardware (or 486 on an R4000), according to Insignia. DOS files can be read and written directly into the Unix file system. Available next month on CD ROM for a US price of \$695, or \$199 as an upgrade.

DEC REORGANISATION IS "PARALYSING" THE COMPANY

Word from inside Digital Equipment Corp last week says the company is pretty much "paralysed" because of the reorganisation into business units and the fact that "no one is in place." The absence of guys with the authority to tell people to either go-ahead with their plans or can them means nothing much is getting approved. DEC folk figure Olsen's successor Bob Palmer found more trouble than he reckoned on once he took over. As much as they're on his side however they say the honeymoon is coming to an end. They're grateful to see a lot of the "deadwood at the top" removed, ticking off long-time retainers like the number two guy Jack Smith, senior vice president of operations, once considered a possible Olsen successor, Jay Atlas, vice president for US channels and Don Zereski, once US area vice president. But even with or maybe because of the structure put in place so far (UX No 418), its still getting that taste of an old-boys network up yonder and wonders where the key visionary, operations, financial analysis and strategy talent is going to come from, or when DEC's youngbloods are going to get their chance. One pretty senior middle manager estimated the reorganisation has cost DEC six months and said it "better be over" by March or there's no telling what the outlook will be. However one body now in place is Enrico Pesatori, who last week traded in his spurs as president and chief executive officer of the Groupe Bull SA-owned Zenith Data Systems Inc to ride herd on Digital Equipment Corp's personal computer business as vice president and general manager of the company's new PC business unit. He reports to DEC president Bob Palmer. DEC is aiming to be one of the top PC companies in the world. Pesatori worked for 21 years for Olivetti before joining Zenith two years ago.

IBM PINS ITS DESKTOP HOPES ON MICROKERNEL

IBM Corp staffers and sources close to the company have been talking to **PC Week** about the company's desktop software strategy, the core of which is the common microkernel that is to underly all of its future offerings. IBM will position PC-DOS as its low-end operating system, OS/2 2.0 and the planned microkernel Workplace OS as mid-range systems, and AIX 3.0 Unix as an option for workstations and large multiprocessing computers. IBM Personal Software Products' microkernel will also act as the follow-on to IBM's current version of AIX for the PS/2. Over time, the company expects Workplace OS to surpass the power of the RISC version of AIX to run on 64-bit machines as well as a wide range of multiprocessing systems. IBM also plans to offer the microkernel as a stand-alone product on the OEM market so that third parties can build their own operating systems on top of it. Analysts briefed by IBM said that the company is seeking to rally a big show of support for the Workplace OS when it is launched, and that enhancements for both PC-DOS and OS/2 are in the works.

WILL DOS FIND ITS END IN MICROSOFT'S CHICAGO?

Microsoft Corp is trying to bring Windows and DOS together in "Chicago," the code name of the project that could spell the end of MS-DOS as we know it. **PC Week** says Microsoft will start briefing its hangers-on in February. It apparently intends melding 32-bit versions of Windows and DOS (the reputed DOS 7.0) in one package reportedly slated for delivery in 18 to 24 months. Windows would then actually be an operating system. Chicago is still in design and might get an object-oriented base which NT lacks. Observers think it might be an NT Lite and linked to NT by its trade name, positioned as a low-end graphical Windows client for 386-class machines with a much-enhanced interface. We hear its trying to get it to run in less than 4Mb RAM.

...HAS TCP/IP IN WINDOWS FOR WORKGROUPS

TCP/IP and Synchronous Data Link Control connections to enable machines running Microsoft Corp's Windows for Workgroups to communicate with Unix and IBM Corp mainframe systems have now gone into beta test, the Redmond company says, and are planned to ship this quarter. The company also announced immediate support for the Pathworks networking system from Digital Equipment Corporation for Windows for Workgroups. The TCP/IP product is designed to integrate Windows for Workgroups with Unix-based local and wide area networks, enabling users to standardise on TCP/IP as their only protocol for workgroup computing and wide-area networking - it includes support for the Windows Sockets API.

EVEREX LOOKS TO SELL OFF ITS ESIX UNIX

Personal computer wars victim Everex Systems Inc, which hoisted the white flag and filed for Chapter 11 protection on January 4th, is planning to sell off its Unix operating systems arm, Esix Systems, to an unidentified application software publisher. An agreement in principle has reportedly been signed, but the proposed transaction has to be sanctioned by the bankruptcy court before it can go through because it involves company assets. It could be two months before the court acts. The acquiring company is not believed to have a track record in Unix. It is reportedly willing to devote more resources to advertising and promoting the Esix version of Unix. Insiders have estimated the company's installed base of users in the tens of thousands. Meanwhile, Everex chairman and CEO Steve Hui was shown the door December 23, replaced by Jack Kenney, reportedly a restructuring expert. The company, which is projecting a \$80m to \$100m loss for 1992 and a sizeable loss for first quarter of 1993 ended October 31, also cut another 200 workers before Christmas. It is in default on a loan agreement.

NCR TO SHUT FORMER TERADATA EUROPEAN OPERATIONS...

NCR Corp is closing its Teradata Corp or large systems divisions in the UK and Europe and is relocating staff elsewhere - NCR, itself owned by AT&T Co, acquired Teradata in March 1992. The UK branch, which is by far the largest, will be most affected by the decision. A spokeswoman at NCR said that the 80 UK employees involved will either be relocated to headquarters in Dayton, Ohio or absorbed into the group's UK sales and marketing department in Chertsey, Surrey. No timescale was available. The decree will come into effect at other European operations by the end of January. The NCR spokeswoman denied claims that Teradata had been guaranteed its independence from NCR, saying that from the outset, management had made clear its intention to merge operations. The large systems divisions, which mirrored operations at Dayton, undertook the sales and marketing for Teradata's back-end database processing systems, and the NCR 3600 parallel processing mainframe alternatives, based on Teradata technology. Although cost is said not to be an issue, corporate sales and marketing strategy for Teradata products, as for the rest of NCR's offerings, will henceforth be decided in the US. Localised marketing will still take place, however. Rather than leave customers in the lurch, NCR said that Teradata and NCR staff will work together on upgrades for existing Teradata kit, but the NCR 3600 will take precedence from now on. The move comes on top of NCR UK's December announcement that 8%, or 150 to 160 sales and marketing staff had been told that their jobs were in jeopardy.

...AS IT LAUNCHES JAPANESE LAN MANAGER FOR UNIX SYSTEMS

NCR Corp is now offering Japanese LAN Manager for Unix Systems OEM kit, Unix-based network operating system designed specifically for the Japanese market, and has already licensed it to Fujitsu Ltd, NEC Corp, Toshiba Corp and Nippon Unisys KK. NCR says it now licenses LAN Manager for Unix Systems to more than 10 companies around the world, in parallel with Microsoft Corp's separate licensing effort. The Japanese version of the product was developed by the AT&T Co subsidiary in co-operation with Microsoft. Other licencees for the product include Data General Corp, Dansk Data Elektronik A/S, Digital Equipment Corp and ICL Plc.

WORDPERFECT TO GO PUBLIC, BUYS INTO REFERENCE SOFTWARE

WordPerfect Corp, one of the biggest and most successful computer companies still privately held, will lose its virginity early this year when it files to go public on the Big Board of the New York Exchange, **US PC Week** reports. The initial public offering of 10m shares, about a quarter of the enlarged equity, is expected to be priced in the range of \$18 to \$20, raising between \$150m and \$250m - some \$100m for executives and up to \$150m in new money for the company. Separately, Wordperfect bought a controlling interest in Reference Software International Inc, San Francisco, a developer and marketer of software writing tools and electronic reference works.

OSF, IBM ARE WINNERS IN NOVELL'S UNIX ACQUISITION, SAYS GARTNER

by Maureen O'Gara

A Research Note issued by the Gartner Group in the wake of the Novell Inc/Unix System Labs acquisition judges the Open Software Foundation and IBM Corp to be net winners by the deal. OSF because it might get additional royalties for its technologies, particularly the Distributed Computing Environment (DCE). IBM because Novell is less threatening than Microsoft Corp and a divided marketplace will be easier for the Taligent Pink operating system to negotiate. It estimates Microsoft a loser but not by much. Novell ain't no Windows NT-killer, it says. Only Microsoft itself could seriously screw it up (a faint probability). On the other hand, standard NT "will include at no extra charge many of the same functions now handled by NetWare. Once NT is installed in a NetWare LAN, Microsoft will have the opportunity to point out to users that NetWare (especially pre-version 4) is largely superfluous." Gartner also figures the buyout will induce Microsoft to accelerate its effort to better support standards like OSF DCE, Distributed Management Environment and X/Open Co Ltd's XPG. It says Microsoft will likely be driven to support an optional Unix SVR4 personality on top of the NT kernel by 1995 or 1996 and that such a creature will be brought to life by a third party, nominating the Santa Cruz Operation Inc for the role. Sun Microsystems Inc is Gartner's other net loser. It'll be a lot harder now to sell Solaris-on-Intel and find distribution channels. It'll also put pressure on Sun to support mainstream technology like DCE and Motif. Gartner believes that by 1995 "Sun will compromise much more substantially than it previously has, de-emphasizing Sun-specific application programming interfaces and services such as Open Network Computing and Open Look in favour of X/Open, OSF and USL-endorsed interfaces."

FUTURE RELATIONSHIP MUST BE

DEFINED BEFORE DEAL CAN GO THROUGH

The question of the moment turns on how tightly bonded Unix System Labs and Novell Inc will become. A definitive agreement that outlines exactly what kind of a subsidiary USL will be, how independent of Novell it will stay, has yet to be written but will be before the acquisition can go through. The party line adopted by both companies maintains that USL will be free-standing and their two product lines kept distinct for the foreseeable future. However, Novell itself raised the issue of increasing the integration and interoperability of NetWare and Unix, so it seems only fair to ask how much and under what circumstances, especially when the pair are still hammering out substantive issues relative to USL's independence and the future of the industry. Worst case scenario - maybe - is that Unix disappears as a separate entity, absorbed for the greater good of Novell into NetWare. This is what a lot of responsible people think has actually happened or logically will happen soon enough despite what Novell, USL and AT&T are saying publicly. They reason that a lot of what's in NetWare right now sorely needs replacing and that that's why Noorda bought Unix in the first place. Eventually Novell will make Unix and NetWare indistinguishable. Why will it need USL after that? Both USL and Novell have the same OEM customers. Isn't it easier to buy from one source? Poof, there goes USL. The same is true of Univel - already so tightly bound to Novell it uses the same premises and the self-same order-entry system. Once Univel softens up the marketplace and the marketplace protests that it has only so much money and can't possibly buy both NetWare and UnixWare, poof, Univel is integrated back into Novell. Survivors of Novell's Excelan and Digital Research acquisitions claim this is all going to happen quicker than a June bug hops on a ripe fig. USL is given no more than a six-month honeymoon starting now. It then becomes nothing more than a research and development site for Novell. Its sales, marketing and communications hub is shifted either to Utah or to Novell offices in California. Its sales and marketing staff is dispersed. The acquisition is complete.

Collar

Novell's purchase of USL includes its balance sheet, which means the \$40m USL has in the bank. On the liability side is the 8% of the stock reserved for the employees which is being handled as debt. It looks as though USL was valued at around \$355m, up \$30m from when they did the private placement 18 months ago. We've found no one yet who's willing to tell us what the collar is. That's what they call the high and low value of the stock in a stock swap such as this. Therefore it's impossible to estimate the actual value of the deal.

Personal NetWare

Novell Inc is now talking about its forthcoming Personal NetWare, saying that the first version of the entry-level networking product, known internally as BizQuick, the one for Microsoft Corp Windows users, will ship in the second quarter: other versions of Personal NetWare, tailored to the Macintosh, MS-DOS, OS/2 and Unix will follow later in the year and in 1994, the company told Dow Jones & Co.

USL chief, for now

Betting pools are forming on how long president Roel Pieper stays with USL. Despite what the press releases say, maybe he will never go with Novell. Maybe he'll stay with AT&T on Bob Kavner's team working to make him king. Maybe he'll go to Novell and gracefully steal away at the opportune moment. Bets that he'll take over as president of Novell may not take into account the short life span of any of Novell's prior heirs apparent. People who know him say Ray Noorda regards all of his lieutenants as highly dispensable as he noticeably wearies of them quickly. They also say Noorda won't name a successor until he's carried out of the building on a stretcher.

AT&T AND NOVELL GET TOGETHER ON TELECOMS

The new year has given birth to what could be a powerful new combo: AT&T and Novell. The two companies have announced a side deal to Novell's pending acquisition of Unix System Labs, that will see Novell and AT&T co-developing and co-marketing products that link their core businesses: computer networks and business phones (UX No 418). Novell said its discussions with AT&T over USL led the two companies to consider this and several other areas of synergy, which they declined to innumerate. The tie-up could send a chill through Bill Gates since it gives Novell an interesting point of entry to the enterprise. The technology will take advantage of existing phones systems and computer networks and won't require wiring or new boards to connect each phone and micro. Telephony Services will be accessible from MS-DOS, Windows, OS/2, Macintosh and Unix. The first product, due this year, will be the Telephony Server NetWare Loadable Module, linking Novell's NetWare and AT&T's Definity line of PABX systems. Application programming interfaces will be defined to enable third-party developers to integrate telephony services into applications; integration of electronic mail, fax and voice mail are planned, other possibilities include voice-mail management products, simplified conference-calling capabilities and call-centre applications. Other people's systems will be integrated, although only AT&T holding NCR Corp is currently involved, with a plan to provide similar support in its Unix-based StarGroup software line with applications complimentary to NetWare. They are promising a multimedia desktop down the road and a user interface that is a "pleasurable and useful experience."

TALIGENT IS "AHEAD OF SCHEDULE"

Taligent Inc, the Apple Computer Inc-IBM Corp joint venture that is busy turning Apple's Pink object-oriented operating environment into a fully-fledged product, is well ahead of schedule in the development effort and now expects to start shipping the thing next year rather than in 1995, the **Wall Street Journal** reports. Taligent will be available for a range of different processors and will be able to run applications written for the Macintosh and for OS/2. The company now has 260 employees, up from 170 at its birth and has won Borland International Inc chief Phillipe Kahn over - "Technically, it's brilliant and Taligent is running much faster than I expected; instead of being bogged down by the bureaucracies of its two large parents, Taligent seems to have taken the best of each company," Kahn commented to the Journal, which notes that Wordperfect Corp and Novell Inc are doing applications.

EMPHASYS SYSTEM/36-TO-UNIX SOFTWARE ON SUNs

Sun Microsystems Inc will be increasing its incursion into the IBM Corp installed commercial base with Emphasys Software putting its Cross/36 migration tool on Sparc machines running both Solaris 1.1 and 2.1. Cross/36 will allow System/36 users to migrate existing applications to Sun-based client/server environments. It is said to provide true source code compatibility and allow applications to be developed on either platform. Sun, in the throes of trying to get as much commercial software at its disposal as possible, partnered with Universal Software last October to put its like-minded Open/36 on Sparc. The System/36 market is thought to be prime for rightsizing. Overall, Sun is putting in place commercial software tools aimed at the development of new client/server applications, the cross-development of hosted applications and the migration of existing applications. It figures no single development approach has emerged and so is indiscriminate in applying I-CASE, 4GL, object-oriented and 3GL. The new SparcClassic is being offered as an exemplary commercial development platform because of its price point.

INTEL ADMITS PENTIUM SHORTAGE

We must confess we didn't even bother calling Intel Corp last issue so it could confirm or deny our story of severe allocations of Pentiums throughout all of 1993 (UX No 418). We have beaten our head against that brick wall too often. Dean Witter, however, read the story, called Intel and got it to admit that such is the case. Intel told the Wall Streeter it was expecting to deliver Pentiums in the low hundreds of thousands this year, not the million or more anticipated. Presumably the shortfall will affect the acceptance of Microsoft Corp Windows NT. However, Microsoft says its projected sales of one million copies of NT the first twelve months it's out are not highly dependent on Pentium.

PROGRAMMED LOGIC HAS FAST FILE SYSTEM FOR UNIXES

Bell Labs spin-out Programmed Logic Corp, Somersfield, New Jersey, has released its High Performance File System (HPFS) for Intel Corp machines running Unix SVR4 from Consensus Inc, Dell Computer Corp, Esix Computer Inc, Microport Inc and UHC Inc as well as Univel Inc's UnixWare. HPFS is the SVR4-compatible file system that promises to more than double system throughput. It is available to OEMs, VARs and integrators at \$250 for single user, \$500 for multi-user and \$1,000 for multi-processing versions. It is not yet available retail. This is the spin-out's second of three products for compressing, encrypting and speeding up the Unix file system. It has already released its Desktop File System for halving the disk space needed (UX No 403). The company says HPFS incorporates a new approach to meta-data management and fundamental enhancements to SVR4 file system algorithms that collectively eliminates the usual I/O bottleneck.

HEWLETT-PACKARD ADDS

TIVOLI MANAGEMENT ENVIRONMENT...

Hewlett-Packard Co is adopting Austin, Texas-based Tivoli Systems Inc's object-oriented Tivoli Management Environment for its HP 9000 Unix workstations and servers. The two will jointly market the software on HP 9000s as part of the OpenView suite of products. The HP version will be fully interoperable across systems so that users will be able to manage distributed computing networks of workstations and servers from different vendors using a single integrated set of tools. The Tivoli Management Environment automates tasks such as user, host and group management; administration of security; remote systems monitoring; and network-wide distribution and maintenance of software via a graphical interface. The environment includes Tivoli/Works to manage basic system resources; Tivoli/Courier for distributing software updates; Tivoli/Sentry to monitor, spot and correct problems on local and remote computers; and the Tivoli/Application Extension Facility toolkit for modifying and customising the other applications. The environment is a key element of the Open Software Foundation's Distributed Management Environment and the existing version should be ready to ship for HP 9000s in March, starting at \$37,500. A new edition, now under development will be out in the third quarter. As well as HP and OSF, Tivoli has Unix International and SunSoft Inc to its credit.

...7100 WORKSTATIONS ALREADY SHIPPING...

Hewlett-Packard Co has managed to beat the clock on delivering its new single-chip 7100-based workstations. Limited quantities of the HP 9000 Models 715, 735 and 755, originally due this month, started going out the door in December. Everything, in fact, except the 50MHz 725 which because of non-standard packaging isn't scheduled to ship until the second quarter. HP says it's building its volumes up now and will get there this quarter. The company says its experience this time through is different from when the first Snakes were delayed by shortfalls in the Texas Instruments Inc-produced floating point unit because it's controlling all design and all fabrication.

...NEW X-STATIONS, WORKSTATION BUNDLES

Hewlett-Packard Co last week cut prices on its Vectra personal computers and servers by up to 22% and launched a series of bundled packages in its Precision Architecture 7100 RISC-based workstations and X-stations at prices starting at \$3,500 per user. The new X-stations are the HP 700/RX Models 15Ci and 17Ci. The bundles include 15" and 17" colour displays in the X-station line and a new 17" colour X-station, the 17Ca. The 15Ci will be available for \$3,000 and the 17Ci for \$4,000; the 17Ca is \$4,700.

OBJECTIVITY LOOKS FOR PROFIT BY JUNE

Last month Objectivity Inc started delivering a major upgrade of its object database, Objectivity/DB Version 2.0, adding SQL++ for ad hoc query and new application life-cycle features to help administer distributed databases and update deployed applications. The new functionality includes distributed schemas that can be shared by application developers to ease development of related applications; detachable databases for more flexible distribution of databases; on-line incremental backup and restore for high availability of databases in production environments; schema evolution and object migration for upgrading deployed object applications and new database administrative tools and programmatic interfaces so developers can include database administration functions in applications. The new release addresses some important developer issues like distributed schema for building families of applications in distributed environments. The company, which claims the lion's share of the object database market, has yet to record a profit. After two years it has strategic alliances with DEC, HP, IBM, NCR, SGI and Sun, 100 customers, 500 development seats, 10,000 run-times out and 10,000 deployed applications. Applications are the key to its eventual success. It figures the momentum of applications coming on-line will push it over the hump at the end of June, the end of its fiscal year. It estimates by then it will have 20,000 run-time copies in the field. Meanwhile, it is biding its time before making its next jump to Microsoft Corp Windows NT.

LAWSON READY FOR MAJOR OPEN PUSH

Lawson Software Inc, Minneapolis, which despite dipping its toe into the Unix market has hitherto concentrated on the AS/400 as the platform for its financial and distribution software, is to launch its new "Open Enterprise" range of software during the first week of February. Open Enterprise, previously referred to as Version 6.0 (UX No 408) is to be billed as a complete re-write of the Lawson software for Unix and client-server environments, and is built in layers, with the application logic in the middle. On the top will be an open presentation layer to handle X-Windows or Microsoft Windows, and at the bottom an interface to handle multiple databases such as Oracle, Ingres and Sybase. It includes Lawson's built-in Universe 4GL, integrated executive information facility, and handles multi-languages and multi-currency. The company has UK premises in Chertsey, Surrey.

GRADIENT PLANS DCE PRODUCTS FOR NOVELL, APPLE

Gradient Technology, Hudson, Massachusetts, author of an Open Software Foundation Distributed Computing Environment (DCE) product for Windows 3.1, is negotiating with Novell Inc and Apple Computer Inc to develop DCE products in their environments and is considering a DCE-Lite version for MS-DOS, according to **Computer Reseller News**. Gradient says it will go ahead with the Novell and Apple iterations whether or not those companies play. The paper also says that Apple is negotiating with Novell to put the Mac interface on top of UnixWare. Oddly enough Unix System Labs, when it was building Destiny from which UnixWare derives, explored using the Mac interface and originally intended to make the interface created in-house instead much more Mac-like than it is.

PEGASUS RE-APPOINTS CEO

Following its own "annus horribilis," UK software accountancy firm Pegasus Group plc, Kettering, Northamptonshire, has turned the tables again and reinstated Johnathan Hubbard-Ford (forced out last October) as chief executive officer after shareholders demanded a management shake-up. As a result four board members resigned over the Christmas period: Tony Barber, financial director; John Percival, technical development director; Derek Moon, the chairman and non-executive board member Roger Dickinson. The clash of boardroom personalities began after Pegasus bought the rights to Sequel, a Microsoft Corp FoxPro-based accounting product from UK firm Sequel Systems Ltd late last year (UX No 408). The Pegasus board refused to ship Sequel source code to developers until its own shrink-wrapped version of the software was finished - delayed further whilst awaiting new European Economic Community VAT regulations to come into force in the new year. Hubbard-Ford wanted to get code to resellers early to maintain good relations with Pegasus' third party base, but his arguments were overruled and dismissal followed. Angry Pegasus resellers urged shareholders to call an emergency general meeting to examine the company's management style, calling for the reinstatement of Hubbard-Ford. Shareholders subsequently asked the board to reconsider its decisions or step down. Hubbard-Ford has taken a seat on the board alongside Pegasus managing director, Jamie Minotto. Only two members of the original board remain - non-executive Phillip Sellars and Advent Group plc's Neil Pearce (Advent holds a 20% stake in Pegasus). Other directors will be appointed from within the company, Pegasus says. Pegasus is now looking to "drastically cut costs across the company," according to Minotto, and has suspended acquisition policies until further notice. Pegasus will launch an MS-DOS Sequel product later in the year - a Unix version follows in early 1994.

IBM, INFORMIX, APPLIX SHARE USAF DEAL

The United States Air Force has awarded a \$91.6m contract to GTE Government Systems Corporation to supply the Pentagon with IBM Corp RS/6000 workstations running the Informix Software Inc database, Aster*x office automation software as well as automation and networking solutions. The Joint Staff Automation for the Nineties contract runs for eight years. It provides for 1,000 IBM RS/6000s and around 2,000 Aster*x application seats in the first year. GTE Government Systems Corporation won the contract despite protests from Grumman Data Systems. Grumman's bid included Pyramid Technology Corp hardware as well as Uniplex Ltd software.

BANYAN'S VINES 5.50 INCLUDES THIRD-GENERATION STREETTALK

Banyan Systems launched a new version of its Vines system at the NetWorld show in Boston last week, integrating the features of the previously separate Vines 4.11 and Vines 5.0 development efforts, and adding a new "third generation" release of its StreetTalk distributed global directory services. Vines 5.50 is initially only available under Banyan's customised version of Unix, but the functionality will gradually percolate through to SCO Unix and Novell ENS (Enterprise Network Services) versions of Vines. New features include Wide Area Networking support over ISDN and T1 transport, and support for Macintosh and Windows clients. Most important, however, is the integration of StreetTalk III, recognised as a far more advanced system than the basic directory services now been introduced by the likes of Novell Inc. Mixed networks of Vines, NetWare and SCO Unix are supported. The directory is also X.500 compatible. StreetTalk's Directory Integration Architecture opens the directory to applications developers through a full set of Application Programming Interfaces (APIs). But it is left up to the applications developers themselves to synchronise the directories by reading the various separate directories and then updating the StreetTalk database with any changes. Also added to StreetTalk is the Advanced Object facility, which makes it easier to locate and identify network objects - such as users, resources, applications lists etc - by allowing it to be identified by name, and having an unlimited number of attributes associated with it. The practical upshot of this is that the user can formulate a complex request such as "locate a Postscript printer loaded with plain paper on the third floor" and get a sensible answer back. The queries can be framed using an updated version of the existing StreetTalk Directory Assistance tool. Another major addition is the Advanced Management Facility, aiming to help the administrator cope with users and groups of users moving around the company. Prices for Vines 5.50, which includes StreetTalk, remain unchanged, at least for the next few months. Banyan now claims 2 million users for StreetTalk.

SAFETYNET OFFERS RS/6000 DISASTER RECOVERY SERVICE

Disaster recovery company SafetyNet Ltd, hitherto a specialist in the IBM AS/400 market, is offering its services to RS/6000 users. The new service will be run from the company's Bracknell, Berkshire office where a Model 530H is now installed. This offers 35 slots for now but there are plans to upgrade to a model 580 that would double this number. Customers can transfer their data via Ethernet and Token Ring. Initial take-up is expected to come from medium sized business using Series Five RS/6000s but SafetyNet will consider investing in a Series Nine system if demand dictates. Reserving a standard 2Gb slot on the box will cost firms nervous of disaster from £7,500 to £8,000.

NCD TO MAKE \$4M INVESTMENT IN NETMANAGE

As reported briefly (UX No 217), NetManage Inc, Cupertino, California developer of networking protocol software for the Microsoft Corp Windows environment has won agreement in principle that Mountain View, California-based X-terminal pioneer Network Computing Devices Inc will make a \$4m investment in the company. A letter of intent also calls for the two firms to cross-license and resell each other's products. Network Computing's cash will buy a 10% stake in NetManage and wins a seat on the board for executive vice-president Judy Estrin. The move is described as part of Network Computing's long-term strategy to become a broader provider of the elements of the network computing model. The cross-licensing pact calls for NCD to resell NetManage's NEWT, a TCP/IP communication protocol stack for Windows-based personal computers, and its Chameleon and Chameleon/NFS complete TCP/IP application suites that bring Windows machines into the network computing environment. NetManage will in turn resell Network Computing's PC-Xview X server products for Windows- and MS-DOS-based machines, and the PC-Xremote software, which provides high-speed access to remote personal computers over serial lines. NetManage recently set up its UK distribution, appointing E92+, Strood, Kent, and Specif(ix) of Matlock, Derbyshire. NCD has also incorporated a socket for laptop and palmtop credit-card-style adapters in its new Ethernet-Serial-PCMCIA board which plugs into any of its X-terminals as an alternative to existing Ethernet interfaces. The ESP board costs \$250, a 4Mb flash memory board for the socket with X server software costs \$500.

SIX CHIPS WILL FIGHT FOR DESKTOP MARKET, SAYS MICROPROCESSOR REPORT

The **Microprocessor Report** says we're now down to six serious chips contending for the desktop: Intel Corp iAPX-86, Sun Microsystems Inc Sparc, Mips Technologies Inc R series, Hewlett-Packard Co PA-RISC, IBM Corp PowerPC and Digital Equipment Corp Alpha, having discarded the Intel 860, Motorola Inc 88000 and Intergraph Corp Clipper as unreal. It also frets over the Sun/Texas Instruments Inc SuperSparc, awarding it the year's "Wide of the Mark" title. It raises an eyebrow over TI's pricing policies noting that "after announcing a low-ball \$400 price for 33MHz parts, the company now quotes \$1,900 for 40MHz chips as an 'average price for 1993,' delivering a kick in the pants to Sparcstation clone vendors." The Report has published a roundup of SPECmark92 results for the top RISC processors shipping today, plus the fastest 80486. The results are from vendors' official SPEC submissions.

System	DEC 7000 Model 610	DEC 3000 Model 500	HP 9000 Model 735	RS/6000 Model 980	SGI Crimson	SparcStation 10/30	Sparc Classic	Compaq Deskpro/66M
Processor	DECchip 21064	DECchip 21064	HP PA7100	IBM Power 6264	MIPS R4000	TI SuperSparc	TI MicroSparc	Intel 486DX2
Clock rate	182MHz	150MHz	99MHz	62.5MHz	50/100MHz	36MHz	50MHz	66MHz
Cache (on/off-chip)	16Kb/4Mb	16Kb/512Kb	none/512Kb	32Kb/64Kb	16Kb/1Mb	36Kb/none	6Kb/none	8Kb/256Kb
SPECint92	96.6	74.3	80.0	59.2	61.7	45.2	26.4	32.2
SPECfp92	182.1	126.0	150.6	124.8	63.4	49.4	21.0	16.0

WORKSTATION GROWTH SLOWED TO 4% LAST YEAR, SAYS DATAQUEST

Growth in the workstation market sector has been disappointing, according to the latest figures from Dataquest Corp. Definitions are difficult, but so far as the workstation market can be defined, Dataquest reckons that it gained only 4.2% in 1992, following a 14.5% gain in 1991, and suggests that the slowdown in revenue was down to the overall mix of workstations shipped shifting towards lower-priced systems, and to the poor economic climate in Japan, so that the market crept up to \$9,000m. Dataquest does not reckon that IBM hit its target of \$22,500m sales. The top five retained their relative positions, but the top three increased their distance from the pack - Digital Equipment Corp was the only top company to experience a decrease in revenues, which slid from \$1bn to \$800m. Sun Microsystems Inc saw 9.8% growth; Hewlett-Packard Co grew 13%, IBM only 21% against its target of 50%; Silicon Graphics grew sales the most - by 34%. Dataquest notes that 1992 was the first year in which each of the five top workstation vendors offered RISC-based workstations for under \$10,000 and says that in the third quarter more than 60% of the boxes going out the door were priced under \$15,000.

1992 Rank	1991 Rank	Company	Factory \$m	1992 Share (%)	1991 Share (%)
1	1	Sun	2,900	31.6	29.9
2	2	HP	1,800	19.8	18.3
3	3	IBM	1,700	18.4	15.8
4	4	DEC	800	9.1	11.8
5	5	SGI	600	7.1	5.5
Others			1,300	14.0	18.7
Total			9,000		

BULL'S ZENITH IS STRIPPED OF GIANT DESKTOP IV CONTRACT

Compagnie des Machines Bull SA got a most dispiriting Christmas present on Christmas Eve when the US General Services Administration Board of Contract Appeals snatched the \$740.3m Desktop IV US Air Force personal computer contract away from Bull's Buffalo Grove, Illinois-based Zenith Data Systems. The protest suggested that the Air Force incorrectly evaluated the bids and overestimated the ability of Zenith to deliver. Zenith only won the three-year contract to supply 300,000 computers as a result of the government's cancelling its earlier decision to award it to CompuAdd Corp of Austin, Texas, and Sysorex Information Systems, Falls Church, Virginia. The contract had been expected to account for up to 20% of Zenith's business over its life. The contract was to have been the first to be awarded under the new no frills fast track process - but some observers now expect the tender to be scrapped altogether and replaced with a Desktop V tender. Other companies that protested the award include Apple Computer Inc, Electronic Data Systems Corp, Memorex Telex NV, International Data Products Corp and Government Technology Services Inc.

INDIRECT UNIX SALES ARE KEY IN EUROPE, SAYS IDC

European Unix vendors are fighting hard to strengthen their indirect sales channels, according to Per Andersen at IDC's Unix Expertise Centre in Copenhagen, Denmark. According to IDC figures, shipments through indirect channels accounted for 40% of all Unix sales in 1991, a figure likely to rise to 55% by 1997. PC dealers - despite a general lack of Unix expertise - are increasingly regarding workstations as an alternative, while value added resellers are turning towards Unix mid-range systems. In this sector, indirect sales rose 25% in 1991 to reach a value of \$1,362m. IDC +45 3118 6344

...AS HP EXTENDS LEAD OVER SUN, SNI, IBM

Overall, the European market for Unix systems rose by 11% in value last year, compared to 15% in 1991, says IDC, which says it is now worth some \$7,600m. Slow rise in demand for workstations and severe pressure on prices were the key to the downturn, IDC believes, although the actual number of machines shipped in the mid-range and workstation sectors rose by 24% and 19% respectively. One third of all growth in market value was split between Hewlett-Packard Co and IBM Corp. IDC ranks HP as the number one Unix vendor in Europe, and says the firm increased its lead over second placed Sun Microsystems Inc during 1992. Meanwhile, Siemens Nixdorf Informationssysteme AG's third place spot is under attack from IBM. IDC +45 3118 6344

MULTIPROCESSOR MEETS

Corollary Inc will sponsor a Multiprocessor Summit on February 23 and a Multiprocessor Boot Camp on February 24 at the Santa Clara Marriott in Silicon Valley. The Summit will provide an overview of the PC-based multiprocessing unit market. InfoCorp's Lew Brentano and Microsoft Corp's Carl Stock will be there, speaking along with folks from Santa Cruz Operation Inc, Unix Systems Labs and Novell Inc. The Boot Camp is meant for hardcore software developers. It will focus heavily on Windows NT with the afternoon going to SCO MPX, SVR4 MP and ES/MP and NetWare. It's \$200 for both; \$150 for one with discounts available. Call +1 714 250 4040

BULL TO DISTRIBUTE PYRAMID KIT FOR PICK

Bull HN Information Systems Inc, the Billerica, Massachusetts-based US arm of Compagnie des Machines Bull SA, signed a multi-marketing agreement with Pyramid Technology Corp under which Bull becomes the primary distributor of Pyramid's data centre-class MIServer ES Series in the Pick market via direct and indirect Pick channels, focusing on resellers using the uniVerse post relational database management software developed by VMark Software Inc,

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Richard Page, who co-founded **Next Computer Inc** with Steve Jobs and was its top hardware executive, has resigned from the company, one of at least six departures in recent months, saying he's "burnt out." Page's departure has stoked fears in some quarters that Next is preparing to abandon the hardware market, favouring instead an emphasis on software publishing. Other rumours doing the rounds have Next preparing to announce staff layoffs and contemplating the closure of its state-of-the-art manufacturing plant.

Rumours are starting to circulate again about **Microsoft Corp** porting NT to Sparc. This time we went to Microsoft itself. It said it continues to appraise the situation but added that NT is more likely to appear on a **Hewlett-Packard Co's** PA-RISC chip before Sparc. Microsoft indicated it will probably pick another RISC processor before the end of the year.

Cypress Semiconductor Corp has delivered samples of HyperSparc, its 66.7MHz competitor to the TI SuperSparc to Sun.

Sun Microsystems Inc took exception to the story we wrote saying the new SparcClassic isn't all it's cracked up to be because it can't hack it as a standalone thanks to Solaris eating up all its disk and internal memory (UX No 416). It said the box was definitely offered only for distributed environments. We asked it to look at its promotion material again.

FTCWatch newsletter says FTC's committee has forwarded its recommendations on the **Microsoft Corp** investigation to its commissioners. Splitting up Microsoft is not an option, but a move against the firm's MS-DOS licensing practices may have been recommended: FTC commissioners meet on February 5th.

Seems **Novell Inc** missed a first call of the open systems boat back in its dim and distant proprietary past, when Reading, Berkshire-based **X/Open Co Ltd** was casting around for inter face technology that could tie personal computer networks into open systems. The standards body approached the (now) keeper of Unix about the possibility of using Portable NetWare protocols for the task. Novell's reply, insiders claim, was simply "no." It was left to **Sun Microsystems Inc** (PC/NFS) and **Microsoft Corp** (LAN Manager) to supply the interfaces.

SHL Systemshouse Inc, owner of some of the remains of Interactive Systems Corp (UX No 418), is to become a Sun systems integrator in the UK.

Unix System Laboratories Inc is now alleging that **Berkeley Software Design Inc**, the start-up it's suing for copyright infringement and misappropriating trade secrets (UX No 392, 396, 413), plagiarised Unix line-for-line in portions of its BSD/386 operating system and attempted to cover up some of the copying. It also claims there are similar plagiarisms in the Net2 software produced at the **University of California at Berkeley** that BSD/386 derives from. USL has declined to identify the alleged infringements.

Oracle Corp plans to release the first benchmarks run on its parallel server technology within the next few weeks. The benchmarks, produced by a customer, were run on **NCR Corp's** 3600 hardware. In the UK, the first production customer for Oracle 7 has just gone live: it is quarrying company Foster Yeoman

Houston, Texas-based **IMSL Inc** and **Precision Visuals Inc**, Boulder, Colorado are merging on undisclosed terms to create a new \$38m-a-year company called **Visual Numerics Inc**: headquartered in the Texas cowtown, Visual Numerics will bring together IMSL's application development tools for numerical and graphical applications in science, engineering and business with Precision Visuals' Visual Data Analysis software for application developers and end users. The Boulder base will be retained and all established sales offices in the US, France, Germany, the UK and Japan remain open.

Erstwhile **Sequent Computer Systems Corp** president Scott Gibson is now chairman of **Adaptive Solutions Inc**, a Beaverton, Oregon start-up with a special-purpose parallel processing machine called CNAPS meant for image and speech processing.

A guy on Christmas holiday in the wilds of the state of Maine reports that there was a line of people at the bookstore buying copies of the new 385-page \$25 book, **Inside Windows NT**, which gives an architectural overview of the beta package. What ever happened to dime novels?

IBM Corp claims that there are now more than 1,100 applications specifically developed for OS/2 2.0, a figure that it says exceeds its own expectations. Some 500 independent software vendors have delivered applications for OS/2 in 1992, and many more are in the works it said.

The more things change the more they stay the same. Irvine, California-based **Pick Systems** in its umpteenth resurgence has rehired two of its old lieutenants: Richard Lauer, who's been off for six years at **Sequoia Computer Systems Inc**, returns as vice president, sales and Tim Holland, credited with many of Pick's technical developments, returns from stints at **Sequoia** and **Concurrent Computer Corp** to be senior vice president, technology. Both men will attempt to push Pick into the mid-range and large-systems environments.

DEC has successfully tested an operational 1,000 SpecMark Alpha multi-processing unit prototype, developed using gallium arsenide, according to DEC watcher Terry Shannon. He thinks it's out of a DEC High Performance Systems Group lab in Marlboro, Massachusetts. He still can't draw any correlation between this project and the BIPS-1 work being done out at DEC's Western Research Lab (UX No 394). And, with the industry still digesting the earliest 64 bit technology, DEC's Advanced Technology Development engineers are supposedly working on a prototype 128-bit RISC architecture already under the code name "MRISC."

To help its VAX or Mips users move to Alpha platforms, **DEC** has developed binary translation tools which can recompile programs for Alpha without using source code, to which customers may not have access. A penalty is that the translated binaries do not run as fast as programs compiled from source for Alpha - DEC says performance degradation is around 50% - but translation can save customers from rewriting old applications. The translators are of most interest to DEC's installed base, but the same technology could be applied to translate **Intel iAPX-86** code, for example, observes the **Microprocessor Report**. With Windows NT ported to Alpha, an iAPX-86 translator would be a useful tool.

Symbolics Inc, Concord, Massachusetts artificial intelligence pioneer warns that it is running out of cash and needs additional financing quickly: options include selling the company, obtaining additional financing and filing for bankruptcy protection.

Disaster recovery is suddenly big business, with even users of machines as small as the **IBM Corp RS/6000** wanting the security of a share of a back-up system, and **Wang Laboratories Inc** has introduced a RISC Series Mobile Recovery Service on-site disaster recovery option in the US. The service provides a fully-configured, ready to use replacement or substitute system for the Wang RISC Series, or an equivalent Unix system - Wang sells the RS/6000, so an equivalent system is presumably the IBM version.

Frame Technology Corp is to buy text retrieval software house **Verity Inc**, Mountain View, California, in a stock swap involving 3.5m Frame shares valued at around \$50.7m.

The UK's **Meteorological Office** is planning to upgrade its two **Cray Research Inc** supercomputers - known as the Cray twins - within the next three years. The Crays currently run the European Weather Model four times a day (increased from two times before the 1987 hurricane), but the Met Office is hoping to increase both the accuracy of its forecasts and the range beyond the current four or five days. Cray systems are used at most European weather centres, and Cray is obviously front-runner to provide a replacement for the Bracknell, Berkshire based system, but the Met Office is yet to sign anything.

Sun Microsystems Inc has a joint marketing and sales agreement for **Visix Software Inc's** Galaxy software, which allows developers to write a single version of a graphical front-end for applications that will run under a variety of graphical user interfaces.

In the US, **Random House/Times Book** is going to turn up next month with a \$22 volume called **Computer Wars**, How the West Can Win in a Post-IBM World, a blueprint for how America can retain supremacy in IT. It reviews the background leading to the fall of IBM, outlines what's required to win, discusses market opportunities by area, the future of key companies and argue for a US technology policy. The hero of the book is apparently the small fast-moving entrepreneurial companies.

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INTEL "TO BREAK iAPX-86 COMPATIBILITY WITH P6, P7"

A planned P7 microprocessor in the works at Intel Corp - reckoned to be almost, though not entirely, a RISC affair, designed with multiprocessing in mind and still some three years out - will finally break compatibility with the company's current iAPX-86 CPU family, sources say. However, cutting apron strings to the MS-DOS world actually begins with the P6, a superscalar, superpipelined successor to Pentium. Fabricated in CMOS and running at 133MHz, P6 boards will, according to sources, be pitched as high-end building blocks, with spaces for up to four of the 250 MIPS parts. P6's RISC core will form the guts of future generations, including P7. Unlike P7, P6 will include an emulator that can run (recompiled) code developed for the iAPX-86 series. Although Intel was talking last quarter about getting P6 out of the door by the end of this year (UX No 405), it isn't about to sweat for it. It needs time to recoup its investment in Pentium, and still has plenty left to milk in the 80486. P6, we hear, is now slated for the end of 1994, and there maybe a P67 transition product to manage the change up to P7 (UX No 405).

...PENTIUMS REACH CUSTOMERS, BUT 66MHz IS STILL TOO HOT

Meanwhile, OEMs we spoke to say they are now receiving 52MHz versions of Intel's next-generation processor, the as-yet unannounced Pentium, with 60MHz and 66MHz parts expected at the end of the second and third quarters respectively. Seen by some as just a price/performance kicker in its initial guises, Intel is having well-documented problems in getting yields of the more important 66MHz part (UX No 410), and is reportedly still unable to get power consumption on the thing down to four watts. Whilst the 60MHz iteration can't be clocked any faster, the 66MHz mask is designed to go to 100MHz and it is this part, touted as providing two-to-three times the performance of the 80486, which Intel will use as a springboard for the launch of other Pentium family members - see back page. Pentium has two instruction pipelines, so it can execute more than one instruction per cycle, but to take advantage of these facilities and keep the pipes filled, iAPX-86 software needs to be recompiled for it; not because of new instructions, but for a different call sequence that is required. Binary code compiled for the 80486 will run on Pentium with a 10% performance loss and binary compiled for Pentium will run on the 80486. Santa Cruz Operation Inc, however, says it may have to do a Pentium-specific version of its Unix operating system. Intel told it that running a current SCO binary on Pentium would win it only twice the performance of SCO Unix on the 80486, compared with a four-fold increase it could expect with code recompiled for Pentium, although it would mean giving up on backwards compatibility.

... GETS TOUGH WITH ITS OEMS ON NON-DISCLOSURE

Meanwhile, Intel's hardware OEMs, already totally paranoid about delays to Pentium, are said to have been threatened with dire consequences, even lawsuits, if they leak any information about Pentium or the systems they're building around it to the press. Intel has five beta companies for Pentium, including IBM and Unisys, and the list undoubtedly includes Compaq Computer Corp, which dived out of the ACE consortium on condition of the Pentium. There is still talk of a planned Pentium announcement on March 15 - but a launch date has not been firmed up, and the thing will in any case remain a "boutique product" throughout this year, although a P24T 80486 kicker - a 486 with Pentium's floating point unit - is being talked about for mid-year.

SCO HAS NEW PRESIDENT, PREPARES FOR IPO

The Santa Cruz Operation last week reorganised top management, a further result of the clouded departure of its co-founder Larry Michels right before Christmas. Board member Jim Harris, who took over immediately from Michels as president and CEO, has moved up to chairman, replaced by SCO's European chief Lars Turndal. Turndal, a Swede who reputedly delegates, will run day-to-day operations. It is believed SCO regards the shuffle as the springboard to a relatively imminent initial public offering despite mutterings on Wall Street that the sexual harassment suit brought against both Michels and SCO last month would be a millstone around its neck. Despite IPO preparations, the new team is still very open to an acquisition offer depending on the price offered. It would like to fetch five times revenues - which were \$160m in the fiscal year ended September 30 - but then who wouldn't. Turndal predicted future growth would come from product development, strategic partnerships, alliances and acquisitions. Among these potential alliances is the possibility of pushing Windows NT through SCO channels, Harris said. The company has done away with its once-powerful executive committee: its top echelon will now report directly to Turndal. Co-founder and executive vice president Doug Michels has been named chief technology officer. Michels continues to have Jim Wilt, vice president, business development reporting to him. Other senior vice presidents report direct to Turndal.

UNISYS' NEW INTEL BOXES

Taking a leaf out of NCR Corp's book of strategies, Unisys Corp will next week unveil the first of a new line of highly configurable Intel Corp and EISA-based personal computers that, with few if any changes, will magically turn into Unix-run workstations and entry-level servers early in the second quarter. As U6000/DT Unix machines, they will initially run Unix SVR4 and UnixWare, the Univel Inc reprise of SVR4.2. Later in the year, a multiprocessing operating system derived from Unisys' current product will appear. As PW2 Advantage Plus PCs, available next week, the boxes will run SCO Unix, seen by Unisys as more of a desktop offering. Initially 486DX and DX2-based, there is a built-in upgrade path to Pentium, with 60MHz and 66MHz machines anticipated by mid-year. There will be a three-slot workstation, a six-slot workstation or server and a nine-slot server. Their design will allow Unisys to swap most components, such as chips, multiprocessing, memory, video controllers, disk and networking to leverage price, performance and reliability. The video and disk controllers and network interfaces have been integrated directly onto the motherboard. The line is touted as the first step in an aggressive effort to redesign the entire spectrum of Unisys desktop, workstation and entry-level server platforms and to accelerate its engineering, design, manufacturing and time-to-market.

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THANKS IBM: THAT'S ANOTHER FINE MESS YOU'VE GOT US ALL INTO

by *Tim Palmer*

Don't shed too many tears for the publishers of computer magazines and newsletters that major on the IBM Corp market: their readers need aid, comfort and advice more than ever now that the giant's feet of clay have been so mercilessly exposed.

Sad to say, there are thousands of businesses that are now exposed.

The software houses that hung their hats on the VM operating system, unable to believe that IBM would really squander one of the tiny handful of software jewels in its crown, and, 10 years ago, about the only operating system anywhere that offered the complete answer to the threat from Unix. The software houses that have been slow to see the way the wind was blowing and have hardly started recasting their applications for Unix. The software houses that believed all the hot air about AD/Cycle, the Repository and SystemView and eagerly signed on the dotted line. And all the hardware and systems companies that have made a precarious living gathering up the crumbs under IBM's table.

Bull

Amdahl Corp, Fujitsu Ltd and Hitachi Ltd are devastatingly exposed to the new perception that the mainframe is dead meat, and Storage Technology Corp and Memorex Telex NV will have their work cut out getting out from under. They saw the boom falling, but still have a long way to go to fill the hole that the decline of the mainframe is about to open up. And what a time to have to make the transition. As the whole of continental Europe is dragged into recession by Germany, all its biggest computer companies bar ICL Plc are confronting a crisis severely aggravated by the giant shadow cast by the down fallen IBM. ICL has to say, if asked, that the way out of their present crisis is to have started 10 years ago - 10 years that by steady attrition rather than any headline-grabbing lay-offs have seen ICL's workforce decline to 26,000 - from 31,000 only four years ago. As well as - like Hewlett-Packard Co - embracing open systems wholeheartedly, ICL has been able, like HP, to convince users that its proprietary machines are open systems. And, as the European manufacturer operating in the only home market where tenders are genuinely open, ICL has succeeded in making itself truly competitive, so much so that insiders are saying that profits for 1992 will be only slightly below the £62.4m recorded for 1991, making it the only profitable mainframer in Europe. Having made its Unix hardware choice early, after the same false starts as everyone else, ICL has a stable and convincing Sparc-based product line, and can look on its rivals' plight with interested detachment. The contrast across the channel couldn't be more stark. Operating in a bleeding French market, Compagnie des Machines Bull SA has a rapidly vanishing mainframe base, personal computer problems that only seem to have been exacerbated by the acquisition of Zenith Data Systems, which looks like a source of profitless volume, and a Unix strategy that is only just getting off the ground. And now comes the Armonk bombshell: it is committed to IBM's RS/6000 and PowerPC at a time when everything that bears the IBM name has overnight become tainted. Over in Italy, Ing C Olivetti & Co SpA is less directly affected by the abrupt change in status of all things IBM - it only markets Hitachi's plug-compatible mainframes, but it has so many other problems that that is little compensation.

Siemens Nixdorf

It has pinned its future to first the Zilog Inc Z8000, then the Motorola Inc 68000, then the Mips Technologies Inc R-series, before now deciding that Digital Equipment Corp's Alpha RISC is the road to salvation. RISC is the right word - DEC may have got everything right first time, but as a third party with a choice, you'd have to be pretty desperate to bet the shop on it. But even the problems of these companies seem to pale into insignificance compared with those of Siemens Nixdorf Informationssysteme AG. We have been warning ever since the company was formed of the accident at the heart of the company waiting to happen: now IBM's signalling of the death of the mainframe coincides with the German economy heading into the same kind of structural - rather than cyclical - recession that is busy laying waste to IBM itself. Siemens has always modelled its mainframe business so closely on that of IBM that it seems inevitable that the growing antipathy towards IBM's mainframes would rub off on Siemens customers even without the prospect of something approaching depression in Germany: the coincidence of the two strongly implies that once the company finally and painfully gets the ravaged Nixdorf side of the house straight, it will have to repeat the process all over again on the Siemens side. No wonder no-one at Siemens Nixdorf wants to hazard when the company might return to profit. And Cap Gemini Sogeti SA is already suffering from the fact that so much of its own and Hoskyns Group Plc's business is done in the IBM mainframe world.

Apple

Back across the Atlantic, can Apple Computer Inc escape the taint that threatens to stain most of IBM's other partners? It is a worrying time for the Cupertino company, but it probably can come through more or less unscathed, simply because people buy Apple kit not for the underlying technology but for what's on top of it, so provided a happy marriage can be arranged between the PowerPC hardware and Apple's software, and the thing ends up looking to the user like a Macintosh that is simply faster, more powerful, more easy to use and in all ways better than the 68040-based models, Apple should be able to scrape through - and there is still a Motorola Inc 68060 in the pipeline that Apple can fall back on if everything in the IBM relationship goes awry. But as well as all the companies - and there is a host of Cambex Corps and IPL Systems Incs just under the tall poppies of the IBM marketplace, there are thousands and thousands of individuals who must now feel devalued in a deeply demoralising way, people that have made it their life's work to understand everything there is to know and understand about IBM and its mainframe products, who now find that all that hard-won knowledge is a rapidly wasting asset - not just industry commentators and pundits who will soon find that the market can't bear any more "Into the Big Blue Yonder: the Decline and Fall of an American Icon" books, but an unsung army of data processing managers who now feel they are too old to start again and learn something new and fundamentally different virtually from scratch, and will instead sink back into the anonymity of early retirement. We have been known to describe major launches as "IBM announcing the end of the world as we know it": this time, that really is what the company has announced.

OPUS IN CHAPTER 11, CLAIMS

REORGANISATION PLAN IS WORKING

Opus Systems Inc, Fremont, California, the Sparc clone pioneer that's been struggling to keep its head above water for a long time, filed for Chapter 11 bankruptcy protection earlier this month, claiming it shouldn't need the court's protection after February 11. It attributes the speedy exit to having its reorganisation plan in order and the cooperation of its creditors who are apparently agreed on a collections moratorium. Opus, now down to 20 employees, is straddled with the liabilities run up during its spoiled foray into Sparc-based workstations. Last Autumn it gave up all pretence of continuing on in the business and sold off its Personal Mainframe hardware interests to clone newcomer Digital Systems Research (UX No 407). Opus aims to soldier on with its SparcCard add-in business and says it will have the software and follow-on hardware coming out that it promised long ago. Digital Systems, a government contractor, has yet to explain how it will succeed where Opus failed.

INTERGRAPH ENHANCES ITS C400 CLIPPER-BASED LINES

Intergraph Corp, Huntsville, Alabama has wheeled out new families of its computer-aided design, manufacturing and engineering workstations and servers based on the forgotten RISC, its C400 Clipper. The families are the Series 2700, Series 6700 and Series 6800 workstations and servers, and, as reported, they will support Microsoft Corp's Windows NT as well as Unix - presumed to be Unix System V.3.2 - the company has still not made good on its promise to offer OSF/1. The Series 6800 is claimed to deliver overall estimated performance of 65.6 SPECfp92, 36.1 SPECint92 and 67.2 SPECmark89, while the Series 2700 and 6700 deliver overall performance of 35.8 SPECfp92, 24.5 SPECint92 and 40.1 SPECmark89. The company claims that the new machines at least double graphics performance on Intergraph applications; the Series 2700 and 6700 will be available this quarter and the Series 6800 in the second quarter. Prices for fully configured workstations range from \$14,900 to more than \$50,000. Server prices range from \$12,500 to \$70,000. Intergraph also claims that its new 2 Megapixel colour monitor is the first affordable 21" display, but does not put a price on it. The non-interlaced monitor offers 76Hz refresh rate, 0.26-mm dot pitch and antiglare and reflectance and antistatic technology. The standard workstation for all series has 32Mb main memory and a 256-colour 19" or 21" monitor. The Series 2700 has a 426Mb 3.5" disk, the Series 6700 and 6800 have 1Gb 3.5" disk in standard configuration.

IBM UK JOINS PARENT'S CHORUS OF WOE: £616m LOSS

No sooner had IBM Corp announced a grotesque \$5,463m net loss for the fourth quarter, which included a first ever operating loss of \$45m or eight cents a share, than IBM UK Ltd chipped in with figures that were relatively even worse than those of its parent. IBM UK, which does not normally report until a month or more after its parent, presumably thought it would be best to get all the bad news out of the way at the same time. It made a pre-tax operating loss of £398m, and restructuring took another £218m for a total pre-tax loss of £616m, up from a loss last time of £124m; turnover fell 6% to £3,751m; domestic sales and exports were each off 6% at £1,606m and £2,145m. The company shed almost 1,000 employees during the year, leaving it with 13,934. Chairman Sir Tony Cleaver complains that unusually, reductions in product costs were unable to keep pace with price trends in the market. Worldwide, only the RS/6000 did more business in the fourth quarter 1992 than 1991. IBM says it expects sales and general administrative expenses to decline by about \$1,000m this year through its restructuring efforts.

MICROSOFT SEEKS UNIX MAIL PARTNERS

Hewlett-Packard Co is amongst Unix vendors Microsoft Corp has approached to help it develop a Unix version of Microsoft Mail: Microsoft expects Mail could be running under Open Look and Motif by year-end, though observers are sceptical given that a promised OS/2 Presentation Manager version has yet to appear.

SEQUENT NT BOXES BUILT BY TRICORD

Unix vendor Sequent Computer Systems Inc last week announced details of a new line of symmetric multiprocessing systems running Microsoft Corp's Windows NT operating system which will come in at the low-end of its product range. The WinServer boxes will ship with up to six 50MHz Intel Corp 80486 parts until 60MHz Pentiums become generally available - volume deliveries of WinServers aren't expected until the fourth quarter. As predicted (UX No 418), the machines are to be manufactured by Minneapolis, Minnesota-based Tricord Systems Inc which will offer them as its K2 series, though Sequent has exclusive distribution rights for NT versions of the systems, which will ship with a "Sequent skin." Sequent has re-engineered NT's Hardware Abstraction Layer (HAL) specifically for the WinServer, copies of which will only be available from the Beaverton, Oregon-based company. Sequent says its multiprocessing implementation of NT will deliver linear performance increases as the CPU count rises. In its original form NT could only support up to three processors, Sequent says, and was not a scalable. NT now also incorporates parallelism in its communications subsystem thanks to the work Sequent did on adding parallel streams - the ability to have multiple processors running in one stream - to Unix. Microsoft decided NT needed the same functionality and implemented Sequent's techniques. Sequent is pitching the systems as commodity departmental servers which will come in alongside and below the low-end of its existing Intel-based Unix multiprocessor Symmetrys. WinServers are expected to sell for an average of £40,000 to £50,000 in the UK - prices aren't available until the systems are ready to ship - and will be offered with Oracle 7.0, Microsoft SQL Server and other database options. Sequent is currently looking for volume outlets for WinServer in the US and Europe.

Networking

Sequent believes the long term success of NT hinges on its support for client/server protocols and the ability to bring personal computer users on to the network. The problem is that most local area network users have Novell Inc NetWare-based set-ups. NT, meanwhile, incorporates interfaces to Microsoft's own LAN Manager (which also embraces AppleTalk). Sequent suggests giving away LAN Manager with NT as one option for Microsoft to get to bring personal computer users over to its networking solution and therefore to NT. Given its dual-operating system strategy, Sequent is also hoping for increased Unix-to-NT interoperability, but says if the Architecture Neutral Distribution Format technologies now under development come to fruition, then it should be able to produce executable software for Unix and NT.

Unix

Around July time Sequent will release, for its Symmetry servers, the version of Unix SVR4 ES/MP that it worked on for Unix System Labs and has been sitting on since completion last March. In the intervening months, USL has been adding user-level threads and features of the SVR4.2 Destiny desktop to what will eventually emerge as Unix SVR4.3 or like (UX No 397). Sequent says it'll add the user-level threads but won't touch desktop features which require things like VGA monitor drivers. Sequent's clustering solution, using the client/server transaction processing software from Oakland, California firm Forte Software Inc (UX No 409), will be available in April.

IBM FORMS FIREWORKS MULTIMEDIA UNIT

Meanwhile, IBM has formed Fireworks Partners as a separate unit to foster worldwide development and deployment of advanced multimedia applications and services for the commercial and consumer markets within IBM Personal Systems. Fireworks is chartered to co-ordinate varied but related businesses to ensure early marketing of leading-edge multimedia systems; create joint ventures and alliances with other firms; put up initial funding for promising, pioneering multimedia services under development by entrepreneurs outside IBM; and take responsibility for IBM's worldwide multimedia marketing strategy and co-ordinate it across lines of business. It includes IBM's multimedia development and marketing organisation in Atlanta, Georgia, and will oversee IBM's Multimedia Publishing Studio and Kiosk Solutions, and will manage IBM's involvement in Kaleida Labs, HomeView Reality Search Services and NBC Desktop News joint ventures. It is based in Somers, New York.

OPEN LETTER TELLS IBM "SACK THE MANAGEMENT"

IBM will be roundly lambasted next month when both *Upside*, the Silicon Valley insiders' publication, and the prestigious *New York Times Magazine* print "An Open Letter to the IBM Board of Directors" by two consultants who are also co-authors of the new book *Computer Wars: How the West Can Win In a Post-IBM World* (UX No 419). The letter shrilly screams at IBM to come out of its cata-tonic stupor and save itself BEFORE IT'S TOO LATE. It blames current top management and the board itself for not understanding how bad the problems are or knowing how to solve them. Authors Charles Ferguson and Charles Morris paint a dismal picture of the company's record across-the-board since the 1970s and presage a painful decline leading to a disaster of enormous proportions that will drag down with it IBM stockholders, employees, suppliers, the US computer industry at large and the nation as a whole. It ticks off a litany of mistakes from its dependence on mainframes through to the conscious suppression of RISC technology and the grotesque series of blunders by which it handed over control of PCs to Intel and Microsoft. The absence of any viable or constructive action by IBM in the face of impending doom leads the authors to conclude that "a collapse equivalent to those experienced by Wang, Control Data or Prime is not at all improbable." To avoid such a catastrophe they offer IBM a 12 point set of minimum recommendations, which include replacing the present leadership with "technically current" managers and board members raided from younger companies, be tougher on salaries and golden handshakes, slow investment on traditional systems, give its semiconductor business complete perestroika, stop losing money on PCs or stop making them, and commercialise more of its research. Current business and strategy proposals are far too simplistic, say the authors - IBM must cannibalize its products, migrate user to micros and develop new architectures around PowerPC and Intel chip, porting the software systems and applications that are still competitive to new hardware and operating systems. Its core software is obsolete; a new development effort is imperative.

UNIX INTERNATIONAL MEMBERSHIP MULLS USL/NOVELL ACQUISITION

All the US, European and Japanese companies belonging to Unix International's executive committee, together with UI general and associate member representatives such as Data General, Locus, Unisoft and Informix placed a 90-minute conference call to the top executives of Unix System Laboratories the week before last to discuss the implications of USL's pending acquisition by Novell. They wanted assurances that Novell is not about to kidnap Unix. They are said to be generally positive to the takeover but still need to achieve certain comfort levels. Notably, Novell was not a party to the call. However, the companies were reportedly assured that UI's 1993 programme would continue, along with its input on requirements, early access, licensing and conformance and its work in promoting and marketing Unix. The companies were "clear and strong" in their insistence on having a vendor-neutral group, according to UI chief Peter Cunningham. He was not absolutely definite that this group would have to be UI. However, apparently as a result, UI's 1988 charter will be rewritten to recognize the change in USL ownership and Novell will be asked to formally reaffirm the principles and specifics of architecture and vendor neutrality it contains. Cunningham said the work would be done as soon as possible and that there would talk with Novell in the next month or two. They are looking to get agreement before the acquisition closes, an event expected by the end of the quarter. Cunningham said his members are adamant about having input into system software and ensuring that it integrates with other operating environments such as Windows NT, Taligent and OS/2. The companies are also concerned that a vendor-neutral entity have "ownership of source interface and binary interface specifications," he said. This will not mean replacing X/Open, and it will mean working more closely with the Open Software Foundation. Cunningham claims the critical interest of the industry is now focused on commoditisation and the amortization of investment. Unix must be leveraged into a volume player attractive to ISVs and he believes the generic Unix brand UI recently proposed is part of the answer (UX No 415). How OSF fits into this picture remains to be seen.

PROGRESS VERSION 7

"INCOMPATIBLE WITH VERSION 6"

Bedford, Massachusetts-based Progress Software Corp says a development release of its Progress version 7 database and toolset will be out in the third quarter of this year. A general release is scheduled for the end of the year on IBM, HP, Sun and Sequent kit. ICL plc wants Progress version 7 up on its DRS6000 boxes, but has yet to prove its business case, the company says. Version 7, however, is incompatible with the current version 6 release, the firm admits. Ab van Marion, director of Progress' European operations, admitted that Progress version 6 users will have to rewrite their applications for version 7. Van Marion expects sales of its Unix product line to fall over the next year or so. 60% of the Progress' revenue is currently derived from Unix sales: he anticipates sales of Progress on proprietary operating systems to increase, and a port to Hewlett Packard Co's proprietary MPE-based 3000 systems is planned for the first quarter of 1994. The company also said it will up its 50% stake in Burlington, Massachusetts-based Object Design Inc, depending on the success of the object-oriented products currently under joint development.

OBJECT GROUP SEEKS CORBA EXTENSIONS

The Object Management Group is inching its Common Object Request Broker Architecture (CORBA) along with requests for documentation on extensions to CORBA and data on establishing interface definition language (IDL) mapping for C++ in the broker mechanism. Extensions to CORBA for which OMG is seeking information include repository application programming interfaces, additional language bindings or object adapters extensions additions to core Object Request Broker functionality in the areas of support for transactions and concurrency generation. The goal of standardising on an IDL mapping for C++ is to support interoperability between applications written in different languages but supporting OMG's IDL. OMG: +1 508 820 4300.

SUNSELECT CUTS PC EMULATION PRICES

SunSelect halved prices on its SunPC emulation software last week and reduced tags on its hardware accelerator kits between 9% and 20%. The reductions, it claims, make it the price leader for PC emulation products. The Sun planet also unveiled Version 3.1 of SunPC which permits workstation users to access Novell Inc NetWare servers as well as NFS systems. SunPC 3.1 includes expanded support for X Window System managers like Motif and supports a simplified licensing mechanism. It will be available the end of next month.

NOW SUN PICKS UP XYLOGICS' ANNEX TERMINAL SERVERS

Encore Computer Corp must be wondering whether it did the right thing in selling the Annex server product line to Xylogics Inc. The Burlington, Massachusetts company already has OEM agreements on the things from ICL Plc, Siemens Nixdorf Informationssysteme AG, NCR Corp, Sequent Computer Systems Inc, Intergraph Corp and Unisys Corp, and now Sun Microsystems Inc has joined the party. Its Sun Microsystems Computer Corp unit last week announced the Network Terminal Server, which enables 64 terminals or other serial peripheral devices to be connected "easily and economically" anywhere on a Unix host-based local area network. The Network Terminal Server can be connected to any Sun server, including the new Sparccenter 2000, Sparcserver 10 and Sparcserver 600MP. Multiple Network Terminal Servers can be integrated into one network: each has 64 serial ports and one parallel port per unit, and the thing can be managed by SunNet Manager. It offers network security through data encryption, audit trails and user password, and TCP/IP support enables simultaneous connection to multiple systems with a variety of network protocols. Serial Line Internet Protocol and Compressed SLIP support remote personal computers and X Window System terminals. Sun will begin ships next month at \$7,000. Until a year ago, Xylogics used the National Semiconductor Corp NS32000 microprocessor family in the Annex servers that are the subject of the deal with Sun, but it then switched to the Intel Corp 80376, which is the embedded version of the 80386. It says it may switch to a RISC microprocessor in future iterations of what is becoming an extremely popular product on the OEM market.

USL "NOT PLANNING TO ADOPT MACH 3"

Unix System Labs says *Computer Reseller News* was "looking way beyond its headlights - or ours" last week when it said USL may adopt all or part of the Open Software Foundation's Mach 3 microkernel. Apparently there have been at least internal discussions of someday perhaps blending parts of the opposing OSF-USL technologies but it is currently "not part of any strategy on paper or on any timeline." Reportedly no decision of what direction to take has been made, nor is any apparently pending for an operating system not due until 1994-95.

...BUT SETS BELLS RINGING

The idea, nevertheless, is an interesting one, given that Novell Inc is believed by some quarters to be determined to end the division of the Unix world into rival camps. Such a move could provide the mechanism for Digital Equipment Corp, Hewlett-Packard Co and IBM Corp to extricate themselves from OSF's seemingly doomed operating system effort which they have each supported to the tune of tens of millions of dollars. IBM, for example, has already decided to adopt Mach 3 to go under not only AIX Unix, but also under OS/2 with its Workplace Shell, and under the Taligent operating system it is developing with Apple Computer Inc, and demonstrated OS/2, AIX, Windows and MS-DOS applications running on the microkernel at Comdex/Fall. A move to the Mach 3 microkernel by USL would mean that UnixWare and the various implementations of Unix System V would run native on the IBM Corp RS/6000 and PowerPC and Digital Equipment Corp's Alpha, on IBM mainframes, and on the machines of all other vendors voting the OSFi ticket. OSF added fuel to the fire by advising the US trade weekly that it is "very close to Novell".

UNISYS ADDS U 6000 SERVERS

Before its other Pentium-ready systems - see front page - Unisys Corp will this week announce three new additions to its U 6000/35 Unix server line based on Intel's 66MHz 486DX2 chip, expected to enhance the old 33MHz box as a workgroup or departmental LAN server and as a distributed server node in an enterprise-wide OLTP network. It says it's got a maximum 43% improvement on multi-tasking user loads. The six-slot boxes are immediately available with 16Mb RAM expandable to 64Mb, a 150Mb quarter-inch cartridge tape drive and 5.25" drive at \$11,700 for the D66 with a 240Mb hard drive, \$12,200 for the E66 with 425Mb hard drive and \$10,100 for the F66 with disk select option. With an optional mass storage subsystem the box can go to 44Gb total storage with a dual SCSI-2 I/O processor. U 6000/35 upgrades come this quarter.

...BACK FROM THE DEAD - SEES STRONG GROWTH

It's not all bad news on the financial pages. Unisys Corp reports a strong gain in earnings for the fourth quarter and full year 1993, and says it hopes to see "significant earnings growth in 1993". Net income for the year ending December 31 1992 was \$361.2 million, compared with a \$1.4 billion loss last year. Revenue was down slightly from \$8.70 billion to \$8.57 billion. Fourth quarter income was \$139.2 million, up from \$80.5 million last year. The company says that renewed customer and supplier confidence, aggressive asset management, reduction of debt by nearly \$800m to \$2.5 billion and increased software and services revenues all played a part in the reversal of fortunes. Both mainframe lines - the A Series and 2200 Series - saw double digit growth over 1991, while Unix revenues grew at nearly double the mainframe growth rate. New Unix, CTOS and PC hardware is promised this year.

HP US TRADE-IN PROGRAMME

Hewlett-Packard Co has swung back on the offensive in the US with a predatory enhanced workstation trade-in programme, which it says accepts the broadest range of workstations, personal computers and X terminals in part exchange for new Precision Architecture RISC workstations and X stations. The new TradeUp '93 programme will run for the full year and accepts units from Sun Microsystems Inc, Digital Equipment Corp, IBM Corp, Silicon Graphics Inc, Apple Computer Inc and 80386 and 80486-based personal computers for up to 30% off the price of eligible Hewlett-Packard systems. It also offers users the option to trade up to HP 700/RX stations or to add X terminals to their networks, and is claimed to be the only industry programme to do so. It also applies discounts to the cost of expanded memory, mass-storage devices and layered Hewlett-Packard software. It also applies to Hewlett-Packard's own old non-RISC and Apollo systems and does not require that customers trade in a minimum number of systems.

TEXAS INSTRUMENTS APPROACHES

100,000 MARK FOR SUPERSPARC

Texas Instruments Inc had produced a culminative total of over 70,000 SuperSparc, aka Viking, chips by the end of last year, the company told *Unigram.X* last week. These, it says, were all 36MHz and 40MHz types. The three production sites (two in Texas, one in Japan) doing three shifts a day, will pass the 100,000 mark this quarter. 10,000 or so were 40MHz parts, it swears. With increased availability, pricing has dropped to a street price of \$999 apiece for the 36MHz and \$1,399 apiece for the 40MHz in quantities of 1,000 - quite different from the \$1,900 price it gave *The Microprocessor Report* for the 40MHz back in December (UX No 419). TI blames itself for telling the newsletter that that would be the "average price for 1993" because it forgot to factor in the industry practice of constantly repricing in the face of better yields. Of course TI is also discounting and will consider purchases of Tsunami and other chips in coming to final prices. Lead times are now 14 to 16 weeks, and TI has zero product on the shelf. The company claims to be servicing a growing percentage of other customers besides Sun and the companies on the Sparc International executive committee, used for parallelism, high-end superservers and embeded implementations as well as workstations and servers. The "real" Viking, of course, was intended to be a 50MHz part. TI says it has switched to a 0.7-micron process from 0.8, and will be analysing product from every angle before it makes any declarations as to what it's really getting. It's projecting speeds of 40MHz to 50MHz. Samples should be out late this month or early next. It suspects that although the Viking isn't the so-called performance leader, the volumes it's producing are higher than at Hewlett Packard. Meanwhile, TI produced between 10,000 and 20,000 Tsunamis by the end of the year. It expects to double output in Q1.

INTEL PLANS NEW 80486s, CUTS TAGS

Intel Corp plans to cut prices on its 80486 microprocessors, unveil 25 new variants of its current flagship, and make capital investments totalling \$1,600m this year, up from \$1,400m in 1992, company president Andrew Grove told the *Wall Street Journal*. Research and development will absorb another \$900m this year, up from \$800m. Others at the company say that the company has the capacity to make 30m 80486s this year, up from capacity of 15m in 1992. Grove also said that Pentium was on schedule to be introduced at the end of March and that it will be "aggressively" priced. Grove didn't say anything about Pentium supplies, but last week, a Dean Witter analyst called Intel and got it to admit that customers for the chip will be on severe allocation. Intel said it was expecting to deliver Pentiums in the low hundreds of thousands this year, not the million or more anticipated. Microsoft Corp says its projected sales of 1m copies of NT the first 12 months of sales are not highly dependent on Pentium.

HP AND AMD TEAM ON 0.35 MICRON CMOS

The cost of developing new generations of chip technology are so high that collaboration is increasingly the order of the day, and Advanced Micro Devices Inc and Hewlett-Packard Co have decided to join forces on the development of logic process technology to enable the production of microprocessors with 5m to 10m transistors on a single chip by 1995. The two will develop and qualify a general-purpose 0.35-micron CMOS technology by the end of 1994 for volume production the following year, which will involve shrinking the smallest feature sizes on logic chips by more than two times and increase the layers of metal interconnect, increasing the number of transistors that can be integrated on logic devices by a factor of 10 compared with products such as current-generation Am386 devices and Hewlett-Packard's 99MHz Precision Architecture RISC - the Am386 devices are manufactured in 0.8-micron technology. Advanced Micro says a number of its personnel will be assigned to work on a full-time basis at Hewlett-Packard's Deer Creek Research and Development Facility in Palo Alto, California over the next two years, although some tasks associated with the project will be handled at Advanced Micro's Submicron Development Centre in Sunnyvale. Products will be manufactured at Advanced Micro's previously announced sub-0.5-micron facility which is being built in Austin, Texas.

NCR LIFEKEEPER FRS OFFERS FAULT RESILIENCE IN MID-RANGE

NCR Corp has long been interested in offering a high degree of fault-tolerance on its computers, and its final line of mainframes, the 9800s, were claimed to be fault-tolerant. The company has now turned its attention to its mid-range Intel Corp 80486-based multiprocessors with Life Keeper FRS, a set of software, services and tools designed to bring fault resiliency, or "near fault-tolerance" to the line. NCR says Life Keeper FRS offers increased availability and provides automatic failure detection and recovery from system, application and even component failures. It is pitched at users in the hotel and air reservation business, operators of emergency 911 service, keepers of on-line medical records, and automatic teller machine operators, as well as telecommunications operators and retailers. Automatic recovery is accomplished using customer-tailorable standard recovery scripts available for major databases and for major communication interfaces - TCP/IP, Open Systems Interconnection, X25, SNA and Datakit. There is no redundancy: all systems in a configuration can be active - linking multiple NCR System 3000s so that one system might run a mission-critical application while a second runs lower-priority tasks. NCR's LifeKeeper FRS Clusters, for second half 1993, will introduce the ability to cluster multiple systems, offering a single database and Unix file system image. Prices go from \$6,000 to \$30,000, next quarter.

AMALGAMATED SOFTWARE DEVELOPING MAINFRAME-LIKE DATABASE FOR UNIX, NT

Big Bear Lake, California-based Amalgamated Software of North America Inc has announced DataGate, a database management system, for high volume data processing applications, which runs under Unix and Microsoft Corp Windows NT. Amalgamated Software claims it is the first product to incorporate more than one method of data processing in a single system. It says DataGate will be able to handle the kind of numeric-intensive tasks typically tackled by traditional mainframes, but on a Unix or Windows NT server - maintaining mainframe-like data security and integrity features. According to the company, standard relational databases running under Unix can process data only in one way, using Structured Query Language. Amalgamated Software's president, Anne Ferguson explains that because relational databases are slow in processing intensive amounts of data, they are best suited for low volume transaction processing and ad hoc queries. Using SQL for high volume transactions inflicts unnecessary bottlenecks in the system when high volume transactions need to be processed, the company said. The product is claimed to process data in four different ways, by using indexing files; physical files, logical files and SQL. A user can choose one or more methods of processing information. DataGate conforms to Microsoft's Open Database Connectivity and SQL Access Group specifications, which enables users to communicate with standard relational databases. It also links application programs, compilers, system software and file access in one package. The company is currently looking for independent software vendors to develop add-on SQL applications, report writers, file editors and software engineering toolkits for DataGate. DataGate will initially be available on IBM Corp's RS/6000s and is scheduled for release September - no prices are available.

LDS HAS NEW PC-TO-UNIX TOOL

Lenexa, Kansas-based LDS Inc says that almost any personal computer connected via serial hardware can transfer files and other data between any popular Unix-type system using EMPATH, its new communications package. With a user-defined hot key, EMPATH supports switching from MS-DOS to Unix and back from the MS-DOS prompt without exiting applications running under either. It also lets MS-DOS users connect with two separate Unix-type operating systems and have both on line simultaneously. Up to eight different logical sessions at each of two remote Unix sources can be accessed. It enables MS-DOS files to be copied to Unix and vice versa and enables Unix files to be printed by a printer connected to MS-DOS.

AVIIION ECLIPSES MV AT DATA GENERAL

While Data General Corp made a net loss of \$63 million for fiscal 1992, the company maintains that it has been through the worst in its transition from proprietary to open systems, and is now seeing considerable growth in demand for its high-end multiprocessor AViiON servers. First quarter results, while down a drastic 80% compared with the same quarter last year, at least showed a profit of \$0.8 million, notching up DG's second profitable quarter in a row and making six profitable quarters out of the last eight. A further 1,400 jobs were cut last year, bringing the total headcount down to 7,100, down from a peak of 17,700 in 1984. A significant milestone has been that product revenues for the AViiON line finally surpassed those of the proprietary Eclipse MV products. In 1992, AViiON revenues exceeded \$300m, a 43% increase over 1991. MV revenues decreased 42%, compared to a 17% decrease between 1990 and 1991. It means that - aside from service revenues - DG is now more dependent on open systems than proprietary business. In the UK, where DG has just re-vamped its sales channels (see below), AViiONs now outsell Eclipse systems by 5 to 1. DG claims significant demand for its top-end 4 and 8-way Motorola 88100 servers, and says it is selling one of its CLARiiON RAID disc storage sub-systems with just about every 8-way machine that goes out the door. The company remains tight-lipped about the launch date for its long-awaited 88110 upgrades to the AViiONs, which it apparently has ready to go in the Labs. It also has some integration work underway designed to tie-in its servers more closely with workstations from NeXT Computer, following the reseller agreement it announced last year.

DG UK SIGNS TECHNOLOGY PLC AS DISTRIBUTOR

Data General Ltd in the UK has signed up ICL-owned distributor Technology plc of Warrington, Cheshire as its first ever UK distributor for the AViiON and CLARiiON product lines. IT hopes to persuade its 80 VARs to work through Technology in future, though insists there will be "no arm twisting". John Coon, DG's UK marketing manager, says Technology will be better able to cope with support, and also has a large stock of peripherals on hand. Although IBM and DEC withdrew their products from Technology following its acquisition by ICL, Coon says that Technology has convinced him that it will not cross sell or give away DG's secrets to its competitors. The company has also established a Select Partners programme on the UK for the AViiON range, signing up four specialist resellers, ACT Network Si, BLCMP Library Services Ltd, Trinity Computer Services and Weir Systems. Four more will be announced over the next few months. Birmingham-based ACT and Computer Profiles Ltd of Coventry will also act as CLARiiON Select partners.

PRE-SHOW UNIFORM EXECUTIVE CONFERENCE

Uniform has scheduled what it's calling a Uniform Executive Conference for March 15-16, just prior to the opening of the Uniform show. It calls the new meeting an intense strategy session showcasing real-life business solutions achieved with client-server computing. The programme, chaired by Nina Lytton of Open Systems Advisor, will be targeted at chief executive officers, vice presidents, directors of information, senior planners and technology architects as a reality check. It will be held at the ANA Hotel in San Francisco across from the Moscone Center. Registration is \$1,200. Concurrently, it's scheduled the Uniform Technology Managers' Conference at the San Francisco Marriott to explore actionable issues, products, technologies and trends in emerging application development areas in conjunction with Judith Hurwitz of The Hurwitz Group. Registration is \$800. Call +1 708 260-9700

SHRINK-WRAPPED SELL-OUT?**UNIX SYSTEM LABS REPLIES**

Shame on (You)nigram! In your recent coverage of Novell's letter of intent to purchase Unix System Laboratories you've really missed the mark. Like so many others in the Unix community I look forward to reading Unigram.X every week. But in the Novell/USL transaction there are myriad specific details being worked through in a definitive agreement that would simply be inappropriate to discuss publicly. This process will not likely be completed until March. At that time there will be a number of things we will disclose to clarify how USL will be structured to assure the continuation of a business model that provides vendor-neutrality and equal access to the Unix Operating System, as well as other technologies. Analyst, Harley Hahn, has fabricated some ominous scenarios suggesting the demise of the open systems philosophy and business model that are the cornerstone of the Unix System. He said, "What's good for NetWare may not be good for Unix...(and) Novell has no compelling reason to keep paying for the fuel that burns in the Unix flame." He quoted me in the same paragraph, but somehow omitted some key words about the commitment of both Novell and USL to preserving the business model by which USL serves its licensees. He conjures up visions of conflict of interest saying, "...somewhere down the road the interests of Novell will not coincide with the Unix world at large. It is unrealistic to expect Novell to spend money to develop Unix for the good of everybody at the expense of their own company." It appears that Harley has a special mirror enabling him to see clearly into the future. He apparently sees Novell as the Grinch who will steal open systems. I suggest that the mirror has severe distortions, and perhaps Harley is seeing things grossly out of proportion. In a paragraph entitled New Opportunities, Harley warns, "The many Unix VAR's and resellers should probably be more concerned with the loss of a stable, independent source for Unix than an imaginary NT monster (and) it would be prudent for those Unix vendors who have not already made the switch to take a strong look at OSF." Again, Harley is so convinced of his predicted outcome that he feels compelled to chase VARs away, as well. Fortunately for us all, most VARs are sharp enough to make independent business decisions. Those VARs and ISVs I have talked to, view the combination of USL and Novell as a very positive move that allows them to more effectively address the total enterprise. If this is true, then their marketplace is about to get a lot bigger. Harley would have them jump ship just as it's pulling into the dock. And finally, Harley paints USL as a financial troubled operation saying, "The financial results for USL seem to indicate that supplying System V to the world is not a good way to make money. If so, there is no reason to expect Novell to keep subsidizing Unix out of altruism." The fact is, USL's total revenues for 1992 were about \$90m and we even made a bit of a profit.

Perfect combination

Hey Harley, we're actually quite proud of what USL has achieved in less than two years as a privately-held company. USL has been courted by other attractive suitors, and has been on track to an initial public offering. Either alternative would have worked, but we believe that aligning with Novell in the proposed merger is the best way to go. It is the perfect combination of complementary technologies, business philosophies, and inherent abilities to meet customer needs. You're right Harley, there is nothing altruistic in the motivations of either Novell or USL. We have this insatiable drive to be successful in the markets we serve. We are convinced that those people you mention who depend on Unix (and NetWare) for their living will find this to be a very satisfying and profitable combination. Many of the issues you raise are important, and are being addressed. My immediate concern is that the tone of your coverage was very negative, speculative, and highly opinionated. If the intent was to provide a lengthy editorial and a persuasive argument for abandoning the Unix System, it was a credible effort. If the intent was to present objective journalistic coverage of an important event, with some semblance of balance and perspective, the mark was badly missed. While we cannot provide the details you might want at this time, I'd encourage you to give us the benefit of the doubt. I predict you'll find that we are not insensitive to the needs of our licensees, or to the culture that made open systems a reality; neither Roel Pieper nor Ray Noorda are Grinches; and the Unix System, as a result of this merger, will be stronger than ever.

Larry Lytle, Unix Systems Laboratories, Inc.

RISC SYSTEM REVENUES UP 45%

The latest issue of *RISC Management* says RISC systems revenues rose 45% last year to \$17.5b. Hewlett-Packard Co's PA-RISC architecture retained its leadership position and \$1bn lead over the runner-up, Sun Microsystems Inc's Sparc. It was surprised by ps Technologies Inc's showing, considering the collapse of the ACE Initiative and its merge with Silicon Graphics Inc: Mips revenues decisively recaptured third place from IBM's Power architecture. The newsletter rates HP the leading Unix vendor last year and expects it to consolidate its position this year with at least the 40% revenue increase it got last year on an 80% increase in shipped units. This year HP should benefit from users fleeing IBM. It gives IBM little chance of achieving its stated goal of becoming the Unix workstation and server leader by the end of next year.

4.1 MILLION MERCHANT RISCs SHIPPED

Meanwhile, shipments of merchant RISC architecture microprocessors reached 4.1m in 1992, up from 1.4m in 1991, according to the newsletter. Most were delivered in embedded systems and over half those shipped were Intel Corp i960s, thanks to the Hewlett-Packard Co LaserJet IV printer design win. The newsletter predicts shipments of the Mips Technologies Inc RISC will exceed those of Sun Microsystems Inc's Sparc this year. Of the 4.1m merchant RISCs shipped last year, 51.1% were i960s, 20.7% AMD 29000s, 7.8% Sparc, 7.1% Mips, 6.8% transputers, 3.4% ARM, 1.7% i860 and 1.5% 88100. Cumulative shipments of the various merchant RISCs are as follows:

Intel i960	2,423,000
AMD 29000	1,247,000
Transputer	1,080,000
Sun Sparc	875,000
Mips R	540,000
ARM	360,000
88100	205,000
i860	195,000
Total	6,915,000

DIVISION PUSHES BACK THE FRONTIERS WITH PROVISION 100 VIRTUAL REALITY STATION

In the UK, Almondsbury, Bristol-based virtual reality system developer Division Ltd has launched the ProVision 100, a virtual reality workstation for computer-aided design, molecular modelling, interior design and entertainment. The ProVision 100 runs under Unix System V and is available in stand-alone or multi-user configurations. It can be networked with other workstations including Silicon Graphics Inc Irises and IBM Corp RS/6000 via Ethernet and has what Division claims to be the first purpose-built virtual reality software environment, dVS. This is a distributed, object-oriented system in which the different elements of the virtual environment are controlled by autonomous parallel servers, each running on a different CPU. It also features acoustic technology from Groveland, California-based Crystal River Engineering Inc, involving high performance signal processors that can localise sounds such as ringing telephones and voices at their visual sources - whether these are moving or still. This also models sound reflections off or through the other objects in the virtual world. Three Intel Corp 80860s, seven Transputers and a 33MHz 80486 CPU provide the core of the workstation which has between eight and 32Mb of memory. It has a 200Mb hard disk, optional SCSI, and 1.44Mb floppy drive. It is based on an EISA bus with accelerator boards for three-dimensional graphics, three-dimensional audio, collision detection and peripheral processing. A headset, video monitor and keyboard for programming; and three-dimensional mouse are also provided. Provision 100 is available in Europe through Division, in Japan from Matsushita Electric Industrial Co and in the US from Redwood, California-based Division Inc, at around £50,000. Meantime, Division Ltd is busy working on a number of other projects. It is collaborating with the TNO Physics & Electronics Laboratory in the Netherlands on assessing virtual reality for aerospace and military simulation, for example.

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The Weekly information newsletter for the UNIX © community worldwide

After reading in Unigram last week about its co-marketing deal with Sun Microsystems Inc for Galaxy (UX No 419), Visix Software Inc called us to ask, "What deal?" We duly went back to Sun, which claims there is to a deal, just like it said, has been for months and that it is moving lots of product. When one or the other figures out what's going on will it please let us know?

Meanwhile, the Reston, Virginia-based Visix, which reckons it missed the contract IBM awarded to Neuron Data Inc last week by a whisker, is thought to be looking at some alternative ways of marketing Galaxy, including using the Internet as a vehicle. Visix is currently recruiting for a UK subsidiary it plans to open in the next two months.

Robert Youngjohn has been appointed to head up IBM UK's AIX business unit, following the departure of Clive Parminter to Oracle UK.

There is talk that Ziff Davis' *PC Magazine* will include a review of a Compaq Pentium system on March 1.

Unigram (UX No 418) got carried away with itself when it identified AGE Logic's new 32-bit X server as being for Windows NT. Silly us. It's for Windows 3.x and is the first 32-bit X server software for it, generating a 22% to 76% performance increase over the 16-bit XoftWare, says AGE. Meanwhile, AGE has signed Tech Data as a nationwide US distributor of all its XoftWare products.

DB/Expo '93, the fifth in a row, is slated for San Francisco's Moscone Center, May 3-7. Bill Gates, Philippe Kahn, Steve Jobs, Larry Ellison, Sybase's Bob Epstein and Apple's Morris Taradalsky are all coming to speak.

In assessing Windows NT, Unisys Corp has decided the heart of its future direction lies with Unix, its choice for creating open systems solutions. Nice to hear.

Despite its pending acquisition and whatever that holds in store, Unix System Labs says its agreement with Novell Inc means keeping its current business plan intact. That means getting beta versions of its anticipated ES/MP software, SVR4.2 ES/MP for lack of a more official designation, out before summer. This is the stuff that, if plans hold true, will be the platform for future developments like a microkernel.

Sun Microsystems Inc's Intercontinental Division has opened an office in Warsaw to provide local sales, service and marketing support directly to its distributors, VARs and customers in Poland and the Baltic states.

Transarc Corp, Pittsburgh, Pennsylvania, where IBM is a minority investor, has picked up Mary Patterson as its vice president, development. She was previously with IBM and before she left launched a new networking consulting business for IBM North America.

It is thought that Intel Corp will be introduce an initial Pentium chip as the first member of a family of "Pentium technologies," see front page. It'll be followed by a P54, with seven different members, some possibly sampling this side of 1994. The family will include a 100MHz P54c Pentium (compact) done in 0.5 micron technology and P54cm (multi-processor) which will feature a new type of vacancy socket to allow for user upgradable drop-in chips.

Boston's Integrated Computer Solutions Inc will provide SunSoft Open Look Intrinsic Toolkit (OLIT 3.1) for HP 700s and DEC Alpha AXP workstations to simplify porting applications between the different environments. HP and DEC boxes will get direct access to libraries of existing Open Look applications running on Sun systems. The single-user price is \$525.

Blue watchers are saying that IBM chief John Akers will be out by March or April and that the company in its infinite wisdom will give the job to one of those retired IBMers it just brought back from the pasture, probably Kaspar Cassoni.

Looks as if Lotus Development Corp is being shopped around as a merger partner: according to the *Wall Street Journal*, Borland International Inc's Philippe Kahn discussed a possible merger with Lotus's Jim Manzi last month, although the talks were inconclusive, and elsewhere Manzi was seen to have been in deep discussions over dinner with Sun Microsystems Inc's Scott McNealy; Lotus of course tried and failed to merge with Novell Inc.

Novell Inc is halving the price of its NetWare/FleX IP product to \$1,000 effective February 1: the thing enables Unix users to connect to printers on NetWare networks, and NetWare users to use printers attached to Unix systems, and provides file transfer protocol, and X Window systems console utility.

It took some time for all the records to be checked, but it's now agreed that IBM Corp's full year net loss for 1992 of \$4,965m goes down in history as the largest corporate loss on record, taking the baton from General Motors Corp.

Ray Noorda, 67, chief executive of Novell Inc, has given an assurance that he will set in train the process of finding a successor to run the company "in the next year". Concern is growing that there is no-one in sight to take over Novell should Noorda become incapacitated.

Amdahl Corp is restructuring its European operations, putting its Huron applications development and delivery system into a separate business unit headquartered in the UK, and restoring the mainframe operations to their pre-1981 borders.

Ex-presidential candidate Ross Perot told *The Wall Street Journal* he didn't mean he would take John Akers' job when he told TV host Larry King that "If there's something I could do for IBM, well, I owe them that forever." Apparently he was deluged with calls. He says he meant the remark only as an expression of affection.

The Object Management Group is pleased to point out that the Novell Inc buy-in at Hyperdesk Corp will give it its first Common Object Request Broker Architecture (CORBA)-compliant adherent.

DEC is struggling to come up with a clear, forthright statement on its Unix policy for a worldwide briefing it's planning on holding February 10. President Bob Palmer is expected to be among those fielding questions which should get pretty pointed.

We hear Uniplex is searching for a US president. New product components of its next generation office suite - what the company used to call Medley - are expected to be revealed on February 15th.

The more things change the more they stay the same. Pick Systems in its umpteenth resurgence has rehired two of its old lieutenants: Richard Lauer, who's been off for six years at Sequoia Computer Systems Inc, returns as vice president, sales and Tim Holland, credited with many of Pick's technical developments, returns from stints at Sequoia and Concurrent Computer Corp to be senior vice president, technology. Both men will attempt to push Pick into the mid-range and large-systems environments.

God knows they have trouble enough so IBM would appreciate it if we were perfectly clear on a couple of points that came up a fortnight ago (UX No 418). Its first DCE-compliant products have been shipping in the US since December 18. We were using the UK schedule when we said to expect them by the end of this month. Also its Distributed File System is on schedule for June. They were afraid you might think from the way we said it that they were behind.

The famed Cucumber Bookshop in Rockville, Maryland which has hundreds of technical titles in stock has launched an international mail-order company, the only one to specialise in Unix and C including C++ and the object-oriented. +1 800 223-8649.

Silicon Graphics Inc's Mips R4400-based server announcement this week will reportedly also include a new high-end Indigo workstation that goes to 100 SPECmarks and a new graphics subsystem that outperforms the current Reality Engine (UX Nos 407, 413).

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THOMSON'S CETIA IS FIRST TO POWERPC BOARDS...

The Ceta SA subsidiary of Thomson-CSF SA, which specialises in VME workstations and processor boards for real-time applications, last week introduced the first computers based on the IBM Corp-Motorola Inc PowerPC 601 microprocessor. The Power Engine family comprises two products: a VMTR2 high-performance VME single-board machine; and a VGPW2, which is a VME board optimised for real-time applications under Posix 1003.4 compliant operating systems. Director of OEM and technology licensing for IBM's advanced workstations and systems division, Lucian Bifano said "Since the [PowerPC] agreement with Motorola and Apple 18 months ago, we speculated on who would be the first to market with a product; we certainly did not expect it to come four months after our October announcement of the first silicon". Bifano claimed that Ceta is playing a key role in validating PowerPC microprocessor designs still being developed at the Somerset Center in Austin, Texas. Claude Bozzo, president of Ceta, said his company's agreement with Motorola for the 88000 microprocessor is still operational. But the PowerPC-based VME engine is better suited for use in development environments because of its binary compatibility with the RS/6000. He added "The problem with the 88000, although it's a fine component and runs perfectly, is that none of the main manufacturers of development machines (Hewlett-Packard, Sun, IBM) are using it. Only Data General is using it. So software developers will hesitate to write for it. With IBM, Motorola and Apple, we have the two largest personal computer producers in the world and the second largest manufacturer of microprocessors. You also have Ford Motor, Thomson and Bull backing the PowerPC, so you are already assured of sales of hundreds of millions. The problem for Sun and Hewlett is that they will sell only in the tens of millions [of chips]". Ceta stated that the Power Engine product will have a phased entry, from September to December 1993 depending on the model, and its hardware, operating system, and extras. Prices will be aligned with those for boards based on the Motorola 68040 to provide a four-to-five-fold increase in price-performance ratios. Ceta expects to announce a PowerPC-based graphics board and a graphic single-board computer in the second quarter. And Bozzo said that the company has already signed a contract with Aerospatiale for an undisclosed number of Power Engine units. He could not hazard how much business Ceta will do from the Power Engine range because it will be go through three channels: Ceta, Thomson and IBM. He added, however, that his firm would win at least the same revenues as 1992 - \$40m. At the same time, Ceta announced it had expanded its co-operative relationship with Lynx Real-time Systems Inc, Los Gatos, California to put up its Posix-compliant Unix on the new products.

...POWERPC CONSORTIUM SET FOR APRIL

Meanwhile, it looks like we are to be blessed with a PowerPC consortium by April. Logical members include Tadpole Technology plc, Harris Computer Systems Division, Groupe Bull SA and Thomson CSF: they're being asked to kick in \$1m apiece in the first year, the fee will drop in the second. Dell Computer Corp and Tandy Corp have been mentioned as possibles. IBM is now making between a few hundred and a few thousand PowerPC 601s a month in Vermont. Second-pass silicon will sample in the third quarter, with mass production coming by the end of the year. Motorola Inc wants its 601 sampling late first quarter or early second quarter. IBM is selling a license to use and modify AIX plus compilers with the PowerPC. It is courting Asian manufacturers. Two more European companies, one French and one Belgian, have signed for the PowerPC in the last two weeks, according to Hans Wildenberg, Motorola's director of marketing and applications for southern Europe. One of the unnamed companies is "a manufacturer of multiprocessor systems and the other a laser printer company," he said, adding that the printer company is planning to use the RISC processor for a range of high-definition laser printers. Agfa-Gevaert NV of Leuven, Belgium seems to fit that bill, and Telmat Informatique SA, doing parallel machines is a possibility for the other.

IBM "TO ADD LOW-END

RS/6000s, PARALLEL SERVERS"

IBM is expected to make its long anticipated move into massively parallel computing this Tuesday when it launches parallel processing machines running from eight up to 64 PowerParallel RISC/6000 processors. Technical details of the machine, developed at IBM's Highly Parallel Supercomputing Systems Laboratories, were reported in detail last November following previews at Supercomputing '92 in Minneapolis (UX No 412). IBM is going after the scientific/technical crowd as well as those into workstation clustering and computing. No sign yet of the symmetrical multi-processors IBM has been working on with Groupe Bull SA. There is also bound to be at least two low-end, low-cost single chip RS/6000 models, the M20 and M20A PowerStations, along with mid-range systems, upgrades to existing machines, and finally the results of IBM's development work with network server company Auspex System Inc, Santa Clara, California, first reported here one year ago (UX No 369).

SGI CHALLENGES CRAY WITH NEW HIGH-END MACHINES

Shooting, it says, to become a billion dollar company by the end of its fiscal year in June, Silicon Graphics Inc last week unveiled a raft of new hardware and software products which expand its current ranges upwards. As expected (UX Nos 407, 420), the announcement included two lines of high-end, symmetric multiprocessing server systems - Challenge and Power Challenge - Onyx, a graphics subsystem, beefed-up Indigo Extreme and XZ workstations and a Unix System V.4-compliant version of its Irix operating system. Silicon Graphics maintains it is still a technical, rather than a commercial Unix supplier and has its sights set firmly on the Cray Y-MP and Convex Computer Corp user community with its latest offerings. Details page 7.

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SCO GETS SERIOUS ABOUT JAPANESE MARKET

Santa Cruz Operation Inc last week announced its Japanese-language version of Open Desktop, running on 80386 and 80486 machines based on EISA, AT and Micro Channel Architecture buses. Compatible computers include the new Japanese OADG standard machines. Santa Cruz Open Desktop 2.0J has features such as an X Window terminal emulator; support for standard EUC codes, using a conversion between JIS and Shift-JIS codes; support of Japanese keyboards and printers; binary compatibility for Japanese-language applications both character-based and X Window-based, developed under Santa Cruz Open Desktop-J and compatible environments. Japanese Open Desktop 2.0 will be supplied on a choice of CD-ROM, floppy disk and QIC tape, and is priced at \$1,976 for a system for one to two users, \$3,560 for a server system supporting an unlimited number of users, and \$2,112 for a development system. In its first real move into the Japanese market, Santa Cruz Japan has a well-planned series of seminars ready to be held over the next few months. Prior to, and following, actual product release on March 1, seminars for both users, developers, and resellers will be held. OEM customers include the Japanese representatives of Compaq Computer Inc, AST Research Inc, Acer Corp, Tricord Systems Inc and Dell Computer Corp. Hitachi Ltd already includes Santa Cruz products in its list of packages supported on its Flora series of personal computers, and a number of systems integrators including Yamagiwa Data, Intelligent Wave, and Software Products Asia have been enlisted. Santa Cruz has to date kept a very low profile in Japan, although it has had a product available on NEC 9800 series personal computers for some years. However, it feels the real market is just now coming together with the impact of bilingual DOS/V machines and the growing challenge to the status being posed by Compaq and Dell.

ASTEC TO MARKET VISUAL EDGE UIM/X

Astec Ltd has launched the UIM/X graphical user interface builder from Visual Edge Software Inc of Quebec onto the Japanese market, and sales are to begin this week. UIM/X automatically generates C source code based on Motif, conforming to standard specifications for C so that the code is extremely portable. Astec claims an 80% world share for UIM/X of the market for Motif-based interface builders. Other features include a built-in C interpreter, enabling changes in the user interface to be executed simultaneously with the application, WYSIWYG editor, and full use of all of the OSF/Motif toolkit. The product is available on Sparcstations and on X-terminals supporting XMiNT. OpenWare/Motif for Sparcstations, jointly developed with Ascii Corp, is the version of Motif being used, and it will be also sold by Astec. Astec is well-known as a leading edge Unix house in Japan, and as the local distributor of Centerline Software's Saber products.

NEURON LAUNCHES OPEN INTERFACE

Neuron Data Japan has launched Neuron Data Open Interface Version 2.0.1 on the NEC Corp's 4800 series of R-series RISC workstations for delivery this month. Neuron Data hopes to sell around 300 copies of the Japanese development version, priced at \$23,200 in the first year. Conversion for DOS/V machines and to Japanese Windows is currently under way back home at Neuron Data headquarters in Palo Alto.

JAPANESE LANGUAGE UNIXWARE IN MAY.

Novell Japan Ltd is now shipping UnixWare v1.0 in Japan, initially in its English version, but by May it will be available in a Japanese version being developed jointly with Unix System Laboratories Pacific. Novell said it was likely that a version of UnixWare for the PC-9800 line from NEC Corp, which dominates the Japanese market, would be developed, although no date was committed. Prices in Japan range from \$4,435 for the application server to \$524 for TCP/IP and Network File System add-on software. Novell Japan already claims 500 registered outlets to which it plans to add some more dealers with Unix experience.

HUNGARY'S DUNA ELEKTRONIKA TO ENTER UNIX MARKET WITH IBM'S RS/6000

One of Hungary's largest distributors, Duna Elektronika, is preparing to enter the Unix market. According to chief executive Peter Freed, the company is in negotiations with IBM Corp's Eastern European headquarters in Vienna to supply RS/6000s to the domestic market next year. He said "The RS/6000 is not big now in Hungary, and it has only recently come off the Comecon list. But then, in June 91 the PS/2 wasn't big, and this year the Unix market will be interesting." To date, Duna has only sold MS-DOS-based products. Freed also said that it was he rather than Duna, who had taken a 90% stake in Hungary's largest circulation English-language newspaper, *Budapest Week*.

RUSSIAN EMIGRE GETS START-UP BUG

A Russian emigre who was for a while vice president of research and development at Prime/Computervision, has caught the start-up bug. Vladimir Geisberg, graduate of the then University of Leningrad, has started a new company, appropriately named Software Emancipation Technology (SET), which last month introduced a family of software development products called ParaSet. ParaSet is reportedly the first system to use the same model to forward engineer new software and reverse engineer existing software to modify, maintain and update it. The company says this technological approach enables changes made anywhere in the process including development of documentation, design models and source code and at the lowest level of granularity, to be automatically reflected and maintained throughout the entire development process and all software deliverables. ParaSet also reportedly provides the first "what if" capability for engineers to assess the impact of potential changes to their software. ParaSet defines a new product class based on parametric software development, which manages the complexity of design and maintenance. Parameters may include statements, variables, functions and classes common throughout the source code or relationship, entities and subsystems in design models or blocks, paragraphs and words in documents. Unlike traditional I-CASE or top-down design methodologies that allow changes only from high-level designs, ParaSet allows changes from any view of the model, both procedural and object-oriented programming. The software includes a \$7,500 core system: Para/Designer, Para/Programmer and ParaOnline with two options Para/Analyzer and Para-Debugger. Because of its features, it should be useable immediately without disrupting the way people work. It currently supports C and C++, RCS and SCCS source control systems for configuration management. Shipments begin in March. SET is backed by VCs Advent International, Charles River Partners, Oak Investment Partners and Walsh and Greenwood, interesting company for a Russian. +1 617 466 8600

HP BACKS ACT FOR CREDIT RISK SYSTEM

ACT Financial Systems Ltd and Hewlett-Packard Co are working on a Unix version of ACT's Digital Equipment Corp VMS-based credit risk analysis system, Limits. The new Motif front-ended version, Open Limits, will be targeted at the banking community - in particular the major internationals. Hewlett-Packard is contributing 'significant' funds towards development costs and providing software tools and consultancy to ACT, which is to re-engineer the new system on HP 9000 Series 700 and 800 business servers. Limits is designed to integrate with corporate treasury systems and to help indicate the extent of potential risks from involvement with other parties such as members of the Maxwell empire or from fluctuating currencies. It so helps users to monitor capital, to set and manage limits policy and ensure regulatory compliance - such as the 7.6% asset liquidity to be demanded of banks as from April 1. The new version is expected to surface this summer and will be jointly marketed by London-based ACT - which remains the end supplier - and Hewlett-Packard, with its several hundred banking customers.

CAD/CAM SYSTEM MARKET GROWS 10.5%

The value of computer-aided design, computer-aided manufacturing, computer-aided engineering and geographic information systems shipped last year grew by 10.5 percent, according to Dataquest figures.

Systems Market Share Estimates (Millions of Dollars)				
Vendor	1991 Revenues	1992 Revenues	Percent Growth	Market Share (%)
IBM	1,802.5	1,892.5	5.0	12.11
Intergraph	1,148.0	1,170.8	2.0	7.49
HP	830.2	933.0	12.4	5.97
Sun	819.1	878.5	7.3	5.62
DEC	816.1	821.1	0.6	5.26
Total Market	14,996.6	15,623.1	4.2	100.0

1992 Worldwide CAD/CAM/CAE/GIS Software Market Share Estimates (Millions of Dollars)				
Vendor	1991 Revenue	1992 Revenue	Percent Growth	Market Share (%)
IBM	430.1	464.3	8.0	9.41
Autodesk	279.5	353.6	26.5	7.17
Cadence	184.3	350.3	90.1	7.10
Intergraph	280.3	311.4	11.1	6.31
Computervision	247.3	234.1	-5.4	4.74
Total Market	4,465.0	4,933.7	10.5	100.0

IBM: AKERS, KUEHLER SIDELINED, METZ OUT, RIZZO IN AT FINANCE: NEW CHIEF IN 90 DAYS

IBM Corp shares saluted the imminent departure of John Akers with a jump of \$3.25 at \$52.125 at the opening the day after the company accompanied news that it was cutting its quarterly dividend only 55% with the announcement that within 90 days it would have a new chief executive. There are also sweeping management changes. John Akers will retain the posts of chairman and chief executive during the search period and the company is not yet saying whether he will remain titular chairman thereafter. The search for a new chief, to be led by Akers and managed by IBM's board nominating and executive compensation committee, which is chaired by James Burke, a former chairman of Johnson & Johnson, will be conducted both within and outside the company, and IBM has given itself 90 days to complete the process. Chief financial officer Frank Metz, 59, is retiring and will be succeeded by returnee Paul Rizzo, who was elected a vice-chairman; Jack Kuehler, 60, gives up his post as president and becomes another vice-chairman. "It is the right time in IBM's business transformation to identify new leadership," Akers said. "The changes in the industry and in IBM's business continue to accelerate and new leadership will facilitate our ability to meet those challenges." The quarterly dividend for the fourth quarter was cut 55.4% to 54 cents a share from \$1.21, and it could be cut further next quarter once the new man is in charge. The assumption is that Rizzo's appointment to the finance post is a short-term measure and that his key function will be to work out a pricing strategy, which means that anything we have heard on pricing on the new ES/9000s and AS/400s due next month will be overtaken by events. Few are in any doubt that there is plenty more pain to come, and it may well be that the interim management is now expected to clear the decks, steel itself to announce another enormous net loss for the current quarter and let the new chief executive and team come in with a clean sheet.

...BURKE TO WEIGH POSSIBLES AND PROBABLES

To misuse the cliché, the only game in town last week was speculating on who might succeed John Akers as chief executive of IBM Corp. If it picks an insider or a retiree, then we will all be back to writing the company's obituary in three months' time so it has to be an outsider, and one name canvassed that should be crossed off the list at once is that of "Neutron" Jack Welch, boss of General Electric Co - not because he doesn't have the capability but because he does not have a background in the computer industry. John Sculley at Apple Computer Inc is another name that has been canvassed, and he is the exception that proves the rule that an outsider can't run a computer company, but he came in fascinated by the business and devoted all his efforts in the early days learning about it for himself rather than relying on his minions, something no-one taking over IBM now has time to do. Sculley would be a bold choice, but perhaps a little too brave. The same applies to Eckhard Pfeiffer, who has certainly turned Compaq Computer Corp around for the time being, but has not been in the job long enough to demonstrate proven staying power. The best name we've seen so far is that of former Hewlett-Packard Co chief John Young but it is not likely that he would want the job. Our choice would be a former IBMer who has carved out a successful career running another computer company - Comdisco Inc chief Ken Pontikes is already facing up to the same problems besetting IBM, and despite his protestations, there's always Ross Perot.

WANG'S FACTORY JOBS IN JEOPARDY; MILLER OUT

Wang Laboratories Inc president, chairman and chief executive Richard Miller, retained to arrest the company's plunge towards the corporate graveyard, has resigned, firmly denying reports that the board believed the company could no longer afford to pay his \$800,000 a year salary, or of any rift with the Wang family. He is now to be succeeded by a triumvirate of three former executive vice-presidents - Michael Mee as chairman and chief financial officer; Donald Casey as co-president and chief development officer; and Joseph Tucci, co-president and chief executive. The company is currently trading under Chapter 11 bankruptcy protection, and further big cutbacks were signalled as the company announced the change of leadership. It is ending all manufacturing apart from the VS line, which means that most of the 1,000 remaining manufacturing jobs are at risk. Plants in Taiwan, Ireland and Australia are likely to be hit, with the boom falling in the summer; Wang promises to continue to service the software and hardware it has already sold. It will maintain a sales and support network in the 150 countries where it now has a presence, but there may be cuts in both Wang employee numbers and the type of facilities it will operate. Miller said his resignation was because it was best for the re-emerging company. The company's reorganisation plan is due on March 16, a date agreed upon by Wang and the creditors.

McNEALY "SEEKS NOORDA'S SUPPORT TO @£!% NT AND RETURN USL TO ITS ROOTS"

Sun Microsystems Inc president, Scott McNealy, has been talking to and having lunch with Ray Noorda lately, chewing over what's to become of Unix System Labs under Novell Inc. McNealy has a menu of things he'd like Noorda to do once he takes over. He says he told him: "fire everyone except one marketing guy, one order administrator and 200 engineers. Stop all their silly marketing programmes. Focus on producing better and better source code. Cut source code prices to \$5. Stay out of the binary business. Bundle NetWare into Unix." McNealy says this is also a "scenario to @£!% NT." He says Noorda's reply is "I don't own it yet." Asked about Sun's continued support of USL, McNealy said, "Sun is the only company that can engineer its way out of any operating system royalty in a year or two. HP can't. NCR can't. IBM can't. Nobody can. Ray understands that." The ideal time to make that kind of break would be as Sun shifts over to an object-oriented operating system, its next operating systems move, McNealy said. He allows, however, that it'll take six to nine months after the acquisition is complete to see which way the wind is blowing. "If we're not getting what we pay for with our royalties," he said, "then we'll make the make/buy decision." McNealy's henchman, Ed Zander, president of SunSoft, the Sun unit most jeopardised by the Novell/USL takeover, was acting more of the good cop last week when Unigram spoke with him. He uses words like "empathise" (because he did the Interactive deal), "supportive" and "optimistic" when talking about Novell or the USL deal. He says he has high hopes for unity finally and apparently thinks the industry might start coming together at the Unix International members meeting in New Orleans February 11-12 where some 100 companies and 200 people will assemble. Zander seems to think it's going to close to an old-fashioned love-in.

SEQUENT OUT OF DOLDRUMS

Beaverton, Oregon-based Sequent Computer Systems Inc says the rise in its profits for the year to January 2 1993 is a result of company restructuring, and a re-focus on high-end business. The firm's fourth quarter net profits were \$6.3m - up from \$1m last time - on turnover that rose to \$88.7m from \$61.5m last time around. Net profits for the year were \$14.5m, against losses of \$48.7m last time, on turnover that rose 44.1% to \$307.3m, the highest ever recorded by Sequent. Net earnings per share were \$0.23 in the quarter, \$0.55 in the year. Sequent's consultancy services for users contributed \$15.6m to turnover. Sequent claims an installed base of over 4,000 machines worldwide. European turnover was \$100m for the year, which accounted for nearly a third of Sequent's total sales. UK turnover grew by 75% to £47.7m with the installed base topping the 600 mark - Sequent UK firm shipped 30 top-end Symmetry 2000/750 system in 1992. Sequent's escape from the doldrums was also secured by alliances with software vendors such as Oracle Corp and Ingres Corp, according to Mark Miller, Sequent UK's marketing director. The company recently raised \$60m in capital via a share offering to fund its increased research and development efforts, including its Microsoft Corp Windows NT-based systems announced last week (UX No 420).

GRESHAM BANKS ON MOVE TO OPEN SYSTEMS

Gresham Telecomputing Plc, which last week released its first full year figures since the merger of the Gresham Group with Telecomputing Plc in 1991 is betting its future on the market's movement towards open systems, despite the fact that its revenues still come from traditional ICL mainframe customers. Gresham chairman Sid Green professed himself "modestly satisfied" with the company's pre-tax profit of £767,000 on sales of £7.25m - last year's sales were £6.29m but the two companies had been combined for only part of the accounting period. The share prices rose to 57 pence on the news, giving Gresham a market capitalisation of some £17m. DataServe, a remote procedure call client-server product to connect ICL mainframes running VME to other VME or Unix-based systems, is the company's most significant seller: VMS and Windows versions have been announced but are not yet shipping. ISAM-XA, an X/Open-compliant resource manager for those wishing to access transaction processing monitors from data held in indexed sequential file systems - despite all the noise, relational still accounts for only 10% of data - is held to be the brightest hope for the future. It's only competition comes from Informix Corp. ICL has already agreed to take the product, while Olivetti, Bull, DEC, NCR and others are evaluating it. And TP+, Gresham's transaction processing technology said to be complementary to teleprocessing managers such as Tuxedo, Top-End and Encina, has been integrated into Dun & Bradstreet financial accounting software which is now beginning to ship. Gresham says it is working on similar deals and will also begin marketing the product itself to open systems transaction processing users. Southampton-based Gresham employs 90 staff.

NT AND NOVELTIES

When last we talked to AT&T's Bob Kavner about the **Novell Inc/Unix System Labs** acquisition, he really downplayed it as an anti-Microsoft Corp move, pointing out that AT&T does business with Microsoft on a lot of different levels. Now we read in *Computer Reseller News* that Microsoft may sell NT developer kits to some 100,000 software developers at the US Defense Department through DOD contractor AT&T.

Novell says it expects to have its definitive agreement to acquire **Unix System Labs**, sewn up in early February, probably before Valentine's Day. It then has to go through regulatory procedures like filing with the Securities & Exchange Commission and Hart-Scott-Rodino which could be taken until late March, early April. Then the stockholders vote on or in this case rubberstamp the deal.

PC Magazine thinks server versions of Microsoft NT will cost under \$5,000. It quotes Microsoft as saying NT add-ons like SQL Server and SNA Services will be delivered within 90 days of the environment. A systems management product and an X.400 messaging service will ship in the second half of the year.

Microsoft says it has moved up the publication date of its Win32s application programming interface, a subset of the Win32 application programming interface in NT, to this quarter. Reportedly it can't get performance from 16-bit Windows applications running on NT, and admits there's no real point in trying to do it. The company claims NT is now up on 12 symmetric multiprocessing systems, 395 different personal computer models plus the DEC Alpha AXP and MIPS RISC chips. 130 beta NT copies are now with UK corporates, a further 2,500 will be delivered this month: at least 10% of the 45,000 or so NT developer kits shipped worldwide have landed in the UK. "X/Open XPG compliance is the next step" for NT, Microsoft claims. Meanwhile, Bill Gates seems to feel a lot of his Windows NT business will be upgrades. We've heard tell of a \$200 upgrade fee from Windows; apparently upgrading from Windows for Workgroups will be even cheaper.

Univel Inc, which last week closed its first full quarter booking orders, says it has 500 resellers signed and another 2,000 US, 1,000 PacRim and 1,000 European resellers going through the process. Most are Novell Platinum and Gold resellers or part of the new **Novell Unix Master** programme. Univel admits its continued independence is still an "unresolved issue" that's being kicked around Novell and figures its eventual disposition won't be made public until after Novell's acquisition of **Unix System Labs** goes through, though the decision could actually be made in the next 30 days. Novell has said it expected Univel to do over \$5m worth of business during the quarter just closed. It also expects it to build gradually over the next two quarters and then start doing something serious in the fall.

Early bird catches worm: there are two programs already shipping for the still-unavailable Microsoft Windows NT-run Alpha AXP, **Digital Equipment Corp** says. One is SlickEdit, a programmer's editor from MicroEdge. The other is Hamilton Seashell, a software tool from **Hamilton Labs**. DEC is planning to have AXP PC platforms out with software developers before Microsoft puts NT into general release. Figure the hardware for March or April. Meanwhile, DEC is pulling together a central NT engineering-cum-marketing group under Jesse Lipcon and has picked Dennis Schneider, who rolled out DEC's Desktop Direct programme, as director of marketing.

Mimicking Novell, Microsoft is starting "Inside Track," a train the trainer programme for Windows NT February 16. It's flying 500 value-added resellers to Seattle for a three-day course provided they promise to train 50 more. Microsoft's simple arithmetic adds up to 25,000 people who know something about NT. Reportedly it wants a shot at Novell Platinum dealers.

PC Week, which has taken a new interest in Unix since the Novell announcement and will reportedly even grace us with its presence at Uniforum, attacked Microsoft's NT last week in a pair of front-page stories headlined "NetWare Casts Shadow Over NT." The NetWare referred to is NetWare 4.0 which it reviews. In a sidebar, the initial release of NT is trashed by beta testers as lacking the enterprise features such as a global directory, support for multiple protocols or server-based communications and server-to-server mirroring found in competitive products. As a result, it says, many potential buyers are ruling out plans to use NT as a mission-critical server operating system. This from a book recently accused by one of its own columnists as being too cosy with Microsoft. Novell says it is planning to ship version 4.0 of NetWare for Unix by year's end.

SUPERCOMPUTER SYSTEMS CLOSES ITS DOORS

The world has changed radically over the past five years since Cray Research Inc refugee Steve Chen set up his Supercomputer Systems Inc in Eau Claire, Wisconsin. Cray is finding it harder and harder to grow its monolithic supercomputers as the world edges towards parallel systems with the view that they will be able to take over many of the tasks presently handled by today's vector processors, and you can't enter an IBM lab these days without stumbling over some kind of parallel processing development project. So it should have come as no surprise that IBM, which can no longer afford to squander money on things that only might come good, has decided to stop financing Supercomputing Systems. Last week Chen's company bowed to the inevitable and closed its doors. Chen says he is still looking for new sources of finance that would enable the company to re-hire the 320 people thrown out of work by the closure, but does not hold out much hope. The company had tried to raise money by offering shares to the public but was unable to get the guarantees from its principal backer, IBM, that would-be underwriters to the issue were demanding. Chen said in a message to employees that the Eau Claire, Wisconsin company had designed and tested a prototype of what would be the world's fastest supercomputer, and industry executives familiar with the project separately told *Reuter* that the prototype appeared to be a viable machine with a solid architecture. Analysts calculate that Chen needs another \$60m to get the machine into manufacturing and start marketing a four-processor configuration, which would sell for about \$10m; the latest plan had the machine growing to 32 processors. Despite its own financial woes, IBM is expected to provide 60 days' redundancy pay for each of the employees. Analysts say IBM may have invested as much as \$200m in Supercomputing Systems Ltd Partnership, the venture it formed in April 1988. The long-awaited supercomputer had been promised for last year, but the target date was later pushed back to October 1993. The SS-1 supercomputer is nearly finished, but some parts still must be completed, the company told the *Milwaukee Sentinel*: "In a very short period of time, we could be walking that machine out the door to a customer," a spokesman told the *Sentinel* - "It's just a shame that IBM doesn't have the vision they ought to have." The company has several other industrial and government partners, including Boeing Co, Du Pont Co, Ford Motor Co and the National Security Agency, but IBM's \$100m-plus represents about half the total raised by the company, and IBM has also supplied top managers to the company. IBM had originally agreed to help finance the project through to the end of 1992, and has since been helping Supercomputing Systems to meet its payroll on a week-by-week basis.

COMPAQ THROUGH THE \$4,000m BARRIER

Demonstrating what a simple change at the top can achieve, Compaq Computer Corp, which had sales of \$3,200m last year and had been heading back towards the \$2,000m mark under the previous regime, last week announced that it had made it through the \$4,000m sales barrier for 1992, with profits up 34% in the most recent quarter. The company, which has been beset by overwhelming demand for its budget lines, says that it expects to balance supply with demand for most of its products during the current quarter - although it shipped more than twice the number of machines in fourth quarter 1992 as it did in the 1991 period, the backlog has continued into the current quarter. The company says that this year it plans to introduce an "impressive" number of new products, including "entry-level to technologically advanced" desktop and notebook personal computers, printers and servers, and has development efforts under way to address emerging technologies such as Intel Corp's Pentium processor, ones with full motion video and stereo sound, pen-based machines and "other small form-factor devices," the firm promised.

BULL LANDS £100m BRITISH ARMY PACT WITH LOGICA, NORTHERN TELECOM

Compagnie des Machines Bull SA last week picked up a plum UK contract when it was chosen to be the as the prime contractor for a contract worth up to £100m for an administrative computing infrastructure for British Army sites worldwide. Logica Plc and Northern Telecom Ltd are the main subcontractors, with Logica getting business worth £4m and Northern Telecom £25m. The project involves installation and integration of systems into about 550 British Army sites worldwide. Work on trials will begin immediately and the system will become fully operational between 1995 and 1997 under the current plan. The contract calls for systems and software integration, project management services, communications infrastructure and secure Unix systems. Bull will also be providing services support for 10 years. Logica will mainly be involved in the software integration.

RECORD REVENUES BUT PROFITS SLIP AT SUN

Sun Microsystems Inc turned up last week with record revenues of \$1.05bn for its second quarter ended December 31, up 15.5% - however net profits were off 27.7% at \$34.3m. Mid-term net profit fell 47.3% to \$39.1m on sales up 14.7% at \$1,906.7m. Net per share fell 30% to \$0.33 in the quarter, 49% to \$0.38 in the half. The erosion was anticipated because of Sparcstation 10 Model 41 shortages and the cost of ramping up new product production. The company ended the guessing game on Wall Street about how many units it has delivered. Sun said in the first half it shipped 28,000 Sparcstation 10s including 1,500 Model 41s. It has also delivered 3,000 MicroSparc units. En toto for the quarter Sun shipped a record 59,000 revenue systems and 74,000 Sparc systems and upgrades. SunSoft distributed 176,000 Solaris and Unix licenses, 131,000 of them Solaris 2.x, double anything its done before. The US accounted for 50% of the turnover; Europe 28% and the rest of the world 22%. Japan declined as a percentage of the rest of the world. The company said to expect Sparcstation 10 Model 52s and 54s in the late spring, early summer. Analysts, meanwhile, were not impressed at all, and were downgrading their opinions on the company right, left and centre last week, causing the shares to slip.

...FOLLOWS HEWLETT-PACKARD WITH PREDATORY TRADE-IN PROGRAMME

Sun Microsystems Computer Corp has responded to Hewlett-Packard Co's big trade-in programme with up to 40% trade-in credit for people moving to the new Sparcstation 10/Model 30, where Hewlett is offering a maximum 30% (UX No 420). Hewlett, IBM, DEC and Silicon Graphics kit is targeted.

...VXM EASES SOLARIS MIGRATION EFFORTS

Sun's SunSoft Inc satellite is anxious to move its installed base off of Solaris 1.x Unix operating systems and on to Solaris 2.x and naturally doesn't want to share all the goodies it has in 2.x with 1.x users. That sets up a situation of two naming services and not providing NIS+ clients for SunOS. To the rescue comes VXM Technologies Inc, Brookline, Massachusetts, with its SunSoft-sanctioned NIS Migration Kit which consists of a set of NIS+ client binaries for Solaris 1.x and should help users more easily integrate new Solaris 2.x-only boxes like the Sparc Classic and LX. End-user pricing starts at \$3,750 for 50 nodes. NIS+ servers are also available and cost \$250 and includes the first to replicate once. +1 617 730-8490

...SOLARIS-ON-INTEL DUE MARCH 29

The week before last, SunSoft Inc sent out copies to Solaris-on-Intel, which will be officially christened Solaris x86, to a limited number of OEMs. SunSoft plans on making the official announcement on March 29 at the beginning of the whoopla surrounding the Second Annual Solaris Developers Conference in California. Its promising new partners ("big stuff") but it's still unclear when x86 will go into general release.

IBM SIGNS CA FOR AIX SYSTEMS MANAGEMENT

IBM Corp has turned to Islandia, New York-based Computer Associates International Inc for enterprise-wide systems management for the RS/6000 Unix family. The two have an agreement under which Computer Associates will provide RS/6000 users with CA-Unicenter for Unix, becoming, so it claims, the only systems software vendor to provide enterprise-wide systems management connecting MVS, VM and VSE-based mainframes with OS/2, AIX and other Unix systems, enabling data to be managed from any workstation on the network. CA-Unicenter is designed to provide security, scheduling, tape protection, disk back-up, archive management, help desk and console automation. CA-Unicenter is also being developed for Sun Microsystems Inc, Sequent Computer Systems Inc and Tandem Computers Inc machines, and for Novell Inc's NetWare, the company noted.

NEXTWORLD EXPO FOR MAY

Next Computer Inc is going try to stage a NeXTWorld Expo without leaning on Uniforum by holding it at the same time like it did last year. This year it's scheduled for the Moscone Center in San Francisco May 25-27 and NeXT claims it's going to draw 10,000 people. There's only one little tiny problem with the booking - it's smack in the middle of Comdex/Spring, Windows World and the NT roll-out. Its going to be trumpeting NeXTStep as the alternative to the Microsoft monopoly as though the NeXT hardware didn't exist. Steve Jobs is obviously a glutton for punishment.

TENSIONS RISE AS OSF MEMBERS AWAIT

DISTRIBUTED MANAGEMENT ENVIRONMENT

The Open Software Foundation denies a scathing front-page story in last week's *Communications Week* that practically writes off its Distributed Management Environment (DME), charging it with being late, possibly too late to matter much to the marketplace, and with causing in-fighting between OSF's technology suppliers. The story goes so far as to suggest that Hewlett-Packard threatened to resign from OSF over the pace of development but changed its mind. OSF on the other hand contends that the complex software is on schedule for the next phase, its Distributed Services Release due in September. Most of the technology going into this third snapshot will be wrapped up in the second quarter, according to business area manager Jon Gossels. Gossels says the development and engineering plans along with a set of milestones and documentation were published along with the second snapshot towards the end of last year and sent to 50 early access members, arguing that the schedule and adherence to it is known and calculable. The next part, the Management Framework, is set for release by the end of the year. Although Gossels says, "it looks good today," he also acknowledges that the Framework is at a different stage, is difficult to assess and that substantial work remains to be done. OSF is doing the final integration and testing of DME reportedly because it couldn't get any of its members to take the job after the tussle IBM had integrating DCE. However it appears that five of DME's technology providers including Tivoli Systems Inc, HP, Gradient Technologies Inc, IBM and System Center are modifying their components and making changes on OSF's behalf so they will fit. Gossels admits tensions rise because people resist change, especially to their own work. He dismisses the notion that these reactions were either "bad" or a "surprise." Although there are 45 OSFers and 105 outsiders working on the project, Gossel said at least one of these, Hewlett-Packard, is working without a contract but that it is a perfectly normal situation at OSF. DCE integration contracts weren't signed until after the code was released. There are of course difficulties merging technologies as varient as HP's and Tivoli's which is object-oriented. However, Gossels maintains OSF and its partners foresaw the hurdles and prepared against them well in advance. Bottom line, it is too premature to talk about DME losing market, "What alternative do they have," Gossels said.

NOVELL PLANS DISTRIBUTED COMPUTING SUPPORT

Novell Inc is working with Carnegie Mellon University to develop Open Software Foundation Distributed Computing Environment (DCE) support for NetWare. It will offer DCE support as add-ons in a series of phased releases. The first offering, not expected until the end of the year, is a NetWare Loadable Module. This will enable users to access DCE file systems transparently. The user logs on, is identified by the system and will be able to access both DCE file systems and NetWare simultaneously. Product Number will undertake core functionality like remote procedure calls, security and DCE threads within the NetWare server. If DCE is accepted as a de facto standard, Novell says it may embed the modules NetWare, although it says this is unlikely to happen unless OSF reviews its DCE licensing fees currently running at some \$2,500.

NEXT LEANING TOWARDS SOFTWARE

Suggesting that that Next Computer Inc may indeed err on the software of its business - if it can find enough takers for NextStep-on-Intel (UX 414) - the company says it is re-organising its corporate operations to "accomodate a much larger software role". The company said end of year financial results - which recorded its first profitable quarter, thought to be around \$1m on revenues of \$45m - will give it the opportunity to concentrate on software. For the year, revenues were \$140m, up 10%, more than double the rate of growth of the workstation market as a whole; profit and loss details were not given. US sales rose 36% to \$98m, foreign sales slumped 24% to \$42m. Next plans further international subsidiaries and is to expand its software engineering division. Next refused to comment on reports that it might abandon its hardware business altogether. The company says a 40MHz 68040 upgrade board for the NextStation, nicknamed Nitro, will only be released if it increases performance 30-40%. Nitro's evaluation period finishes this week.

OILMEN'S SOFTWARE PLATFORM DUE IN APRIL

The 69 members of the Petrotechnical Open Software Corporation are in the final stages of deciding what standards and technologies, from those submitted, are to be included in its Software Integration Platform (SIP). At a user group meeting in Aberdeen, Tim Haynes, POSC's European technical director, said he hoped the integration platform would establish guidelines for suppliers working to develop interoperable applications for the oil industry and allow the oil companies themselves to harmonise their internal IT efforts. SIP guidelines will be made public in April. SIP is a combination of open systems strategies, de facto industry standards plus some established products adopted under previous technology requests, such as Hewlett-Packard Co's object-oriented OpenODB database and UniSQL Inc's relational-to-object database linking technology (UX No 401). POSC member companies - the oil industry's open systems user organisation - and the group's permanent staff have been evaluating potential SIP components since last December. POSC is positioning the Base Computing Standard in SIP as a building block for portability, scalability and interoperability and electronic data interchange using established and emerging technologies. This encompasses Posix, XPG3 (XPG4), TCP/IP, OSI, and Fortran and C languages. Graphics standards supported are GKS, Phigs, X-Windows, PEX, Motif and probably Open Look. POSC says it'll call for the development of a set of industry-specific widgets next year when a more complete range of interface recommendations will be presented. Emerging standards such as C++ and the Open Software Foundation's Distributed Computing and Management Environment will also feature in SIP. Windows NT has yet to be endorsed in SIP because Microsoft Corp refuses to back open systems standards for the oil industry, Haynes says.

Branding scheme

POSC has established common data and access (SQL-based) models for developers and suppliers to incorporate in their solutions derived from its members' data processing requirements. POSC says the models will allow different departments within an organisation to share applications and data. Using solutions which deploy these models, production and operations divisions should, for example, be able to share well and drilling information with their geology and geophysics counterparts. With X/Open Co Ltd's help, the organisation will try and get a branding scheme going for POSC-compliant products using the SIP. According to Haynes, the problem establishing any branding effort - and one that POSC has encountered - is the reluctance of vendors to re-engineer existing products to meet the requirements of one section of the user community. To help its cause, POSC has set up interoperability labs in Houston, Texas and London which preview the various model and technologies in use. POSC began life in November 1990 as a three year effort backed by \$15m funding plus membership fees of up to \$100,000 which depend on the organisation's size. Funding beyond November this year depends upon the success of SIP and how POSC's 1994-1998 business plan, expected next quarter 1993, is received by majors sponsors such as Mobil, Chevron, Elf, Texaco and British Petroleum. Haynes stoically suggests that POSC's future is not indefinite. Its aim, he says, is not to become a commercial body but to point users towards products and technologies that support their interests.

TANDEM'S CLIENT/SERVER OLTP TOOLKIT

Tandem Computers Inc has introduced a software tool kit that it claims extends transaction processing on its proprietary Guardian 90-based NonStop machines to desktop systems in client-server environments. The products in the Client/Server OLTP Toolkit are claimed to simplify interoperability by minimising programming complexity between client and server systems in a transaction processing application. The Toolkit includes the Pathway Open Environment Toolkit and Tandem Dynamic Data Exchange Gateway, both of which are designed to accelerate transaction processing applications development with Microsoft Corp Windows-based clients. The Toolkit also includes Remote Server Call, which now supports clients running under the Hewlett-Packard HP-UX operating system, Sun Microsystems SunOS, the Santa Cruz Operation Inc Unix and the Apple Computer Inc Macintosh System: the application programming interface already supports IBM Corp's OS/2 with Presentation Manager, and MS-DOS and Windows.

ADOBE LAUNCHES ADOBE ACROBAT WITH DISTRIBUTED FILE FORMAT

Postscript language and application developer Adobe Systems Inc, Mountain View, California last week launched, Adobe Acrobat, a range of products based on its Carousel Postscript document interchange technology (UX No 407). Adobe claims the Acrobat line will enable users to distribute documents between MS-DOS, Windows, Unix SVR4 and Macintosh System 7 environments as readable files on screen, regardless of the application, hardware or operating system used for document creation. The company pitches Acrobat as an alternative to the ubiquitous ASCII - American Standard Code for Information Interchange - file exchange protocol used by most computer operators. In an ASCII format, documents are displayed in their lowest form on screen and can't easily be read. Adobe claims to have solved this problem with a Postscript-based file format called the Portable Document Format (PDF). PDF files can describe documents containing any combination of text, graphics and images in a device- and resolution-independent format. This means users can view and alter documents anywhere on a Postscript-based network without modification. Acrobat has three components. Acrobat Viewer receives incoming PDF files and enables users to view, manipulate and print the information on any platform running MS-DOS, Unix, Windows or Macintosh. The application used to create the PDF files are not required to view the information, Adobe says. Acrobat Distiller translates Unix and MS-DOS Postscript language files into PDF formats, where print drivers don't normally exist. It is also used to create PDF files from applications that bypass the system level printing facilities. PDF Writer, geared for Macintosh and personal computers running Windows, will convert a file to PDF using the same procedure as used to print a document. A user will be presented with the option of saving as a PDF file rather than sending the document to the printer. Adobe will release additional Acrobat tools to include editing, video, sound and SGML software for the publishing market by the end of this year. Adobe Acrobat version 1.0 is available on Apple Macintosh System 7, Windows 3.1, Sunsoft Inc Solaris 2.1 and MS-DOS. No prices were available.

ATRIUM TO DEBUT DCE SOFTWARE

Atrium Technologies Inc, Austin, Texas, the new start-up by Tivoli Systems founder Bob Fabbio (UX No 419, is going to preview its never-before-seen software packages this week at ComNet, some of the first stuff built for the Open Software Foundation's Distributed Computing Environment, DCE. The surprise is a thing called Distributed Access Control Manager (DACM), a generic DCE ACL security manager meant to relieve users of having construct a defense of their own out of what DCE presents them with. Atrium says the DCE technologies are too primitive and low-level for users to work with. The second program is the expected Dazel which will deliver information to faxes, printers, E-mail, voice and pagers within the context of the network. Dazel reportedly supports Postscript, SGML, SPDL, PCL, ASCII and MIF with other protocols to come. Atrium will run on Sun boxes and Transarc's DCE with HP and IBM hardware to follow. Dazel will sell for \$5,000 for a server, \$700 for a client and DACM for \$2,000 for a server and \$200 for a client. Deliveries are reportedly on schedule for June. Dazel is expected to have some big-name customer wins.

FIFTH GENERATION UNIX BACKUP FOR PCs

Baton Rouge, Louisiana-based Fifth Generation Systems, a little spitfire in the MS-DOS world, has moved on to the Unix scene with its first Unix product, Fastback Plus Unix, a \$345 backup and restore utility for Intel Corp 80386 and 80486 machines running UnixWare, Interactive, SCO Unix, System V.3/V.4 and Consensys V.4.2. It claims to be the fastest PC Unix backup program on the market clocking up to 17.5Mb a minute. The company went out-of-house for the base technology, hooking up with Unisource Systems Inc, experts in big-time disaster recovery. It has added its own full-featured easy-to-use character-based interface. (We've seen, it is.) Fifth Generation is an interesting notch in Unix' belt. It is one of the 20 largest software companies in the US, its MS-DOS Fastback package is the industry standard and it knows a thing or two about distribution and support. It is also not the kind of company that throws its money around so it must be confident making some on Unix. Fastback Plus Unix product marketing manager Neil Norton figures they'll start moving 1,000 units a month direct to some large customers and through their channels. Right now it is shy of OEM deals. The company claims its two million DOS Fastback customers have never reported a case of data loss due to product malfunction. +1 504 291-7221

SILICON GRAPHICS USES MIPS R4400 AND TFP TO CHALLENGE CRAY

by William Fellows

Shooting, it says, to become a billion dollar company by the end of its fiscal year in June, Silicon Graphics Inc last week unveiled a raft of new hardware and software products which expand its current ranges upwards. As expected (UX Nos 407, 420), the announcement included two lines of high-end, symmetric multiprocessing server systems, a graphics subsystem, beefed-up Indigo workstations and a Unix System V.4-compliant version of its Irix operating system. Still positioned as a technical, rather than a commercial Unix supplier - and with its sights set firmly on the Cray Y-MP and Convex Computer Corp user community - the Mountain View, California company has introduced Challenge and Power Challenge server systems, claiming Cray-equivalent performance at a tenth of the price. The Power Challenge series uses the high-end TFP variant of Mips Technologies Inc's R4000 RISC - MIPS began development of the part in conjunction with Silicon Graphics before it was acquired by the latter - which is optimised for floating point performance. Silicon Graphics claims the superpipelined, superscalar 64-bit TFP can execute six instructions per cycle and delivers 300 MFLOPS. It comes as two-chip CPU board plus cache and connects to a 1.2Gbps system bus.

The deskside Power Challenge L comes with up to six TFPs and is rated at up to 1.8 GFLOPS, while the rack-mounted Power Challenge XL delivers 5.4 GFLOPS with up to 18 CPUs. Each comes with from 64Mb to 2Gb RAM (16Gb by year-end), from 1.2Gb to one Terabyte disk, up to four Terabytes of RAID, Ethernet, four serial, one parallel, two SCSI 2, one VME and two HIO (mezzanine) slots. Deskside systems start at £114,000, rackmounts go from £160,000: a top-end configuration will come in at around £1,000,000, the company says.

Second Challenge series

A second Challenge series of systems - what the firm calls its network resource server line - is expected to compete with more traditional Unix suppliers like Sun Microsystems Inc and Hewlett-Packard Co. The machines use Mips latest 150MHz R4400 part - a four-CPU chip set plus cache. The Challenge L, a deskside machine with up to 12 CPUs, is rated at 1,500 MIPS. It comes with from 64Mb RAM and up to 6Gb disk, two SCSI II channels, Ethernet, five VME slots, one parallel and six serial ports. It starts at £68,300 as a two-CPU box with 64Mb RAM and 1.2Gb disk. The Challenge XL, a rack-mounted system, is configured with up to 36 R4400 processors, delivers up to 4,000 MIPS, comes with from 128Mb to 2Gb RAM (16Gb from year-end), up to one Tb of disk, 4Tb of RAID, and includes the same connectivity options as the deskside systems. With two CPUs, 128Mb RAM and 1.2Gb disk it is priced at from £127,900.

Onyx graphics

The R4400 Challenge systems can also be configured with a new graphics engine, Onyx, which comprises up to three RealityEngine2 or VTX graphics subsystems. Like Challenge, these are built around the Mips R4400 and come with up to 12 and six of the parts respectively. RealityEngine2 is an enhanced version of Silicon Graphics' existing RealityEngine subsystem - VTX is aimed at users that need supercomputing performance but less graphics power. A two-processor Onyx subsystem costs from \$114,900 - with two RealityEngine2s it is priced from \$643,900. For systems administration purposes, all new servers are supplied with a visualisation console, which comes with with the firm's workstation graphics environment and the Legato Systems Inc and Veritas Software Corp file management software that it offers.

Indigos

Not content with expanding its server offerings, Silicon Graphics also expanded its Indigo product lines with new mid-range and high-end workstations. A top-end Indigo2 Extreme uses a 100MHz R4000, comes with from 32Mb RAM, 1.2Gb disk, a 19" colour screen, Indigo Magic - a set of software development tools for audio, visual and three-dimensional modelling - and supports the EISA bus. It costs from \$35,000, and a 150MHz R4400 upgrade board will be available from the third quarter priced at \$6,000. The mid-range Indigo XZ uses a 100MHz R4000 and replaces the Indigo XS24Z. With from 16Mb RAM, 432Mb disk and 19" colour screen it is priced at from \$23,000. The company hinted that a sub-£5,000 workstation package will be its next offering.

64-bit Irix next year

All of the new systems are available this quarter and run Irix 5.0, Silicon Graphics' implementation of Unix System V.4. Irix uses the firm's own file system, supports symmetric multiprocessing and multi-threading now, but will not support full 64-bit addressing until the beginning of next year. Although Irix 5.0 conforms to the Mips ABI, Mips computer users running Risc/OS 5.0 or lower will have to recompile applications for the new release. Although it eschews a commercial position, optimised database packages and a transaction processing monitor are promised for the new servers in future and new relationships with Silicon Graphics' existing suppliers are under negotiation.

EVEREX TO SELL ITS ESIX UNIX UNIT TO JAMES RIVER

As expected, Everex Systems Inc, based in Fremont, California, is to sell off its Esix Systems Unix operating systems arm - and the buyer is Minneapolis, Minnesota-based James River Group Inc. The deal was being completed as we went to press, subject to approval by the bankruptcy courts. Everex filed for Chapter 11 protection on January 4 after a projected loss of between \$80m to \$100m for 1992. James River plans to integrate technology from its ICE 10+ and ICE TCP personal computer-to-Unix communications applications with the Esix shrink-wrapped version of Unix System V.4. Ian Cummings, James River's European sales director, says the company will aim the resulting operating system package at small businesses. The Esix product and company will continue to operate under the Esix name. The enhanced Esix product will be sold through new channels as well as existing Esix and James River distributors. Cummings described Esix's worldwide distribution strategy as "haphazard", and said that James River intends to increase its worldwide distribution, especially in Europe. James River: +44 474 709200

NOBLET READIES EZ-RPC FOR SUN PC-NFS - LAN MANAGER, NETWARE VERSIONS TO FOLLOW

Nobletnet Inc, the Natick, Massachusetts-based developer of EZ-RPC transport-independent remote procedure call software, is trying to make it big and is looking for OEMs to sell its distributed computing technology. It has already signed UK distributor Personal Workstations Ltd, London, and wants outlets in Germany and France. Nobletnet's problem is that its major competitor, Boulder, Colorado-based Netwise Inc has already mopped up most of the potential outlets with its RPC-Toolkit offering. Nobletnet is currently negotiating with Sun Microsystems Inc and Hewlett-Packard Co and believes their interest in EZ-RPC lies in the product's ability to rejuvenate the ageing network topologies the two still have, respectively the Open Networking Computing and Network Computing System environments. Nobletnet will release an EZ-RPC version of Sun's PC-NFS protocol later this year. Like EZ-RPC, the PC-NFS version will sit on top of Network File System libraries generating PC-NFS-based remote procedure calls (RPCs) or transport independent RPC's as required. EZ-RPC PC-NFS will enable developers to distribute specific sub-routines of an application across multi-vendor networks to which ever host is best suited to the processing task. Microsoft Corp LAN Manager and Novell Inc NetWare versions of EZ-RPC will follow.

PARITY TO RESELL AXIL SPARCS

RISC-based peripherals reseller Parity Systems Inc, Sunnyvale, California, will be distributing Sparc-a-likes from both Axil Workstations Inc, the San Jose, California-based Hyundai Electronics Co offshoot, and from the parent's Workstation Division. The first are aimed at the commercial market; the latter at the technical. The initial product, debuted last week at the Client/Server expo in California, is a Hyundai Sparcstation 10 clone paired with a 43.2GB Parity PS5900 Tower Subsystem to make the Parity PerformancePlus File Server. Parity says it will have its PerformancePlus models fitted with 33MHz, 36MHz and 40MHz Viking chips. While the first two models should be available in the next few weeks, delivery on the biggest one won't be until after the end of the quarter due to the relative scarcity of 40MHz chips. Parity has only priced the entry-level. It's going for \$22,775 with 32MB, 640MB disk, 14" SVGA colour monitor and 7GB storage. Parity expects to sell to end users and have the boxes rebranded by an integrator who sells into the petrochemical industry.

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XVT Software Inc, Boulder, Colorado, will ship version 2 of XVT-Design, its graphical user interface (GUI) design tool in April, which supports seven different front-ends and includes a range of enhanced integration features. It is priced at \$1,200 on Intel Corp 80486 boxes - \$2,900 on workstations. XVT US: +1 303 443 4223. XVT Europe + 49 6103 37940.

Qualix Group Inc, San Francisco, California, has formed Qualix Direct, a new division to expedite large-volume Unix/client-server software purchases. The move institutionalises the company's eight-month-old Cheap Seats programme. The unit is targeted at customers needing little or no integration services or consultation. It is focused on pricing and delivering saying Unix software has outgrown the long sales cycle.

This year's annual **Hewlett-Packard Co** user association meet, Interex 1993, runs from April 4-7th at the Washington State Convention Center: registration details +1 408 738 4848.

We gather we should regard the coming **Digital Equipment Corp** Triumph Alpha RISC PC as a **Sun Microsystems Inc** Classic knockoff. What else can you call it if it's priced from \$3,500 and \$4,000 and meant to be a network client.

Sunnyvale, California-based MasPar Computer Corp wants us to know it shipped 13 MP-2 massively parallel machines in 1992, calling it a "faster-than-projected start-up" for a box introduced in October 1992.

Motorola Inc is into volume production on its long overdue superscalar highly pipelined 88110 RISC multiprocessing unit, promising it will not be the last of the line. Its brought in Phil Pompa from **Advanced Micro Devices Inc** 29000 line to handle marketing. The 88000 line and the PowerPC will be handled by the same sales team though Motorola is thinking of dividing the world into vertical segments.

Could it have it both ways? Could the **Santa Cruz Operation Inc** go public and get acquired? Think about it. Mean while, some quarters are wondering why **Sun Microsystems Inc** hasn't been around to kick SCO's tyres.

Arnet Corp, Nashville, Tennessee, has signed **Tech Data Inc** to distribute its fax and I/O boards in the US: it has a new X-Windows facsimile viewer programme for Intel iAPX-86 Unix systems: prices start at \$1,300. Meanwhile, it has appointed Janet Shelton OEM sales manager and has a new director of marketing, Fred Berry, who joins from **Emulex Corp**. Arnet has also signed up the Polish **Clico Hi-Tech Software Promotion Centre Ltd** to distribute its wares in Poland. +1 615 834 8

Digital Equipment Corp has reportedly decided to delay putting its sales force on commission until July. It was to be this month. A shadow programme to give people an idea what they'd earn on commission is in effect meantime.

Acer America Corp says it is shipping Acer-Frame 500, an entry-level, diskless **Intel Corp** 80486-based, EISA server for up to to 40 users: with 4Mb RAM, eight slots, SCSI II channel and floppy drive, it runs SCO Unix, OS/2, NetWare, MS-DOS and NT (when it arrives) and starts at \$2,300.

Rosemount, Illinois-based **Covla Technologies** is putting its Communications Integrator message-based distributed computing software up under **Sunsoft Inc's** Solaris.

Bill Coleman, vice president of systems software at **SunSoft Inc**, is taking a delayed leave of absence and is replaced by his right-hand woman, Helen Bradley. Coleman should be gone three to six months and his boss SunSoft president Ed Zander says he'll be back probably with added powers.

Toronto, Canada-based **Empress Software Inc** has put its software on LynxOS, the first port of a commercial database and 4GL to the **Lynx Real Time Systems Inc** operating system.

What with the **Santa Cruz Operation's** new president Lars Turndal being the new kid on the block and a stranger to most of the people who'll have to deal with him, we thought we'd give a little of his background. He's 56, Swedish and married with two kids. He's held senior international management positions with Sperry Univac, DEC and Burroughs. He joined SCO from MSI Data, the portable data collection equipment people. Previously he'd been president of Memorex' international group.

Doug Michels, now SCO's official chief technology officer, reportedly had more control over the future of the company than he used to but is likewise more accountable, measured by what he delivers, they say.

The Microprocessor Report finds DEC has reduced prices on its Alpha 21064 CPUs from \$1,559 to \$1,096 in quantities of a thousand and \$800 in quantities of 50,000. Boy, that's a relief.

The market researcher **Summit Strategies Inc** points out that Unix was developed before Bill Gates was even in high school. The research group also figures **Novell Inc** will try to boost **Unix System Labs'** \$150,000 revenue per employee near term to at least \$210,000 - the minimum Novell believes is required to get a 10% net margin. However, it also claims "Novell will gladly sacrifice a portion of the possible Unix market to expand the market for NetWare. It has a plan to do just that."

Naperville, Illinois-based **Unlr Corp** has signed a distribution agreement with **AT&T** to sell and support AT&T's eight-year old object programming language and development environment C3. C3 includes a graphical development environment, a graphical browser, a compiler and interactive debugger. It also provides interfaces to C, C++, **ParcPlace Systems Inc's** Smalltalk and LISP. The initial version is available for **Sun Sparcstations** - NT and Apple A/UX editions are underway. Prices start at \$800 per workstation.

Those canny souls that know how often these things fall at the last hurdle can stop holding their breath and relax over **Tadpole Technology Plc's** deal to do a Power RISC-based notebook for **IBM Corp**: IBM has paid £325,000 for 500,000 new Tadpole shares at what is now the bargain issue price of 65p, which at last week's price of 224 pence gives it an instant paper profit of £795,000; it also gets warrants for 2.22m more shares at the same price to take it to 12.9%.

Digital Equipment Corp says it intends delivering **Open Software Foundation** Distributed Computing Environment on its OpenVMS AXP platform later this year. Last week it put out a DCE Developers' Kit for OpenVMS on VAX platforms. Meanwhile, its name Adriana Stadecker, who's been managing the company's redesign and restructuring, vice president, executive operations reporting to president Bob Palmer. She will be responsible for overseeing strategic and operational plans.

Norcross, Georgia-based **Dickens Data Corp**, IBM's top US RS/6000 remarketer, is the first reseller named to handle Bull's DPX/20 systems, the new RISC product line based on IBM's Power architecture. It's signed a \$2m contract.

Electronic Engineering Times pegs the Pentium at \$1,200 initially.

IXI Ltd has ported the OSF/Motif graphical user interface and its X.desktop manager to **SunSoft Inc's** Solaris 2.1 operating system. The UK, Cambridge-based firm says demand has been generated by volume sales of the low-end SparcClassic workstation, which does not run earlier versions of Sun's operating system: it ships this month priced at £140 - £200 for a development pack.

ASK Ingres has appointed Jean-Paul Minar senior vice president of worldwide marketing: he was previously managing director of Ingres France.

Thirteen Japanese companies have banded together as the **Tuxedo Promotion Group** in support of **Unix System Labs'** on-line transaction processing monitor, Tuxedo. They include **Fujitsu Ltd**, **Oki Data & Electric Co**, **Nihon Unisys**, **Olivetti of Japan**, **Tandem Japan**, **ASCII**, **AT&T Software Japan Ltd** and **Nihon Oracle**.

Toshiba, a Sparc RISC win which did some fabricating of Mips chips, is considering developing a 32-bit R3000 variant for use as a portable terminal CPU. According to the Japanese press, the move would be designed to counter **Apple Computer Inc** ARM chip for Newton and **AT&T** Hobbit. Toshiba would launch a design/development project within the year and commercialise a ship-chip CPU early in 1994.

Mips lives! The old **Apache Group**, now restyled the **Mips ABI Group**, has added a few members (current count is 16) and is going to stage a rally later this month to wheel out the promised ABI. Cheerleaders, mostly in the form of software companies, will be there to say they have or will comply.

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UI REDRAWS UNIX ROADMAP "WITH USERS IN MIND" - PLANS OBJECT-ORIENTED DESKTOP MANAGER

Unix International's 45-page 1993 Roadmap will be distributed at this week's annual members meeting in New Orleans. It will be the first set of requirements that UI has published that have been validated by 50 major users worldwide. In fact, UI claims the whole Roadmap process has been recast to be user- rather than independent software vendor-focused, detailing user-specific information such as when their suppliers will provide them with certain technologies. UI is labouring to bring required technologies to market quicker and will broaden its supplier base to make deliverability a priority, it says. New requirements include an advanced kernel architecture, multimedia enablers and an Object Management Group-compliant object management environment. UI promises to identify reference technologies this year for the enablers and the management environment, plus a Microsoft Corp Windows emulation package and interconnectivity with several legacy systems. The Roadmap describes the multimedia support package it is after as including a framework, driver, file systems, application interface and communications. It also says the complete object management environment will include an interface definition language compiler, Object Request Broker, object adapter, object storage system and set of common services for creating and deleting object instances. Next year UI plans to specify an object-oriented desktop manager and programming environments. The consortium intends picking suppliers for federated naming (which may be used in the object management system to enhance seamless support for multiple object managers), multimedia support and object management in the third quarter. Windows emulation and AppleTalk, LU6.2 and NetWare interoperability technologies will be detailed in the fourth quarter, while an interapplication communication facility to compete against Windows NT should be unveiled in the second quarter of 1994. The Roadmap also reinforces UI's commitment to deploy the Sunsoft Inc-developed ONC+ distributed computing services beginning in the second quarter of this year, the Unix System Labs-developed Distributed Systems Management scheme beginning in the third quarter, and the Open Software Foundation's Distributed Computing Environment beginning by the end of the year.

...OLIVE BRANCH EXPECTED

Meanwhile, Unix International is being very secretive about an announcement it expects to make this week that it hopes will propel the industry further along the path of unity. UI has also got OSF chief David Tory and either Novell Inc chief executive officer Ray Noorda or some Novell senior executives coming along to its members meeting.

OSF TO PAY ITS WAY IN 1995 - NEW WIDGETS FOR MOTIF

The Open Software Foundation says it is well on course to achieving its stated aim of self-sufficiency by the end of next year (UX No 374). OSF turned over \$55m in 1992, of which \$28m came from sales of technology licences - predominantly for the Motif graphical user interface - the other \$27m being the \$4.5m a year membership dues paid by each of the six remaining founders, Digital Equipment Corp, Hewlett-Packard Co, Hitachi Ltd, IBM Corp, Siemens Nixdorf Informationssysteme AG and Groupe Bull SA. Claiming it is "going into implementation mode," OSF believes it can double its licence revenues over the course of this year with Distributed Computing Environment technologies now coming to market and a string of new business partnerships it will establish - see page five. Indeed, OSF expects sales of DCE licences to contribute at least \$55m to its coffers in 1994. By 1995, it reckons, founders will no longer have to fork out the \$4.5m they do at present to keep the organisation going. Other forms of sponsorship - donations and new membership categories - are being considered. OSF will retain its membership-driven, not-for-profit status. Meanwhile, OSF will shortly announce that it has chosen DEC, IBM Corp and Lotus Development Corp to supply new object-based widgets for the Motif graphical user interface. A new text widget should support a range of colour and typefaces. Also expected are combination and control widgets providing PC-like functionality such as a spin button file stepper and there'll be a notebook too. The new modules are the first to emanate from OSF's Request for Technology issued last summer for the supply of components to the next generation of its user interface, UEC II (UX No 399). UEC II is part of an attempt to evolve Motif into what is essentially a developer toolkit, into an end-user environment. It is part of OSF's object-oriented GUI Application Interoperability Initiative, GAIA.

SUN SPRING "HAS NO AT&T CODE"

A source tells us that one of the reasons Sun-Soft Inc has been so discreet about Spring and Project DOE (Distributed Objects Everywhere) object-oriented stuff, is that it doesn't want Microsoft Corp to know too much. Be that as it may, our source notes that Spring has been written from scratch, is not Unix and owes nothing to AT&T's code. Therefore it would be royalty-free (UX No 421). (Which brings to mind notions of whether Sun will ever offer a cross-licence to Unix System Labs for some reason or another.) We're told it's good at garbage collecting, has built-in exception handling and strong type checking. It supposedly has a "real" remote procedure call system, "much better than Open Network Computing RPC," and can communicate within a machine or between machines. We're also told to say that it has "strong separation of the interface from the implementation." Sun's first problem will probably be getting Sun people themselves to use the stuff, the transition from C or even C++ to objects not being without its hazards as object people know.

MICROSOFT TO ANNOUNCE PC-NFS SUPPORT FOR NT

One of the problems for Unix system users who may be thinking about adopting Microsoft Corp's forthcoming Windows NT operating system as part of a heterogeneous IT environment is that NT does not support Unix's widely-used Network File System protocol or indeed a native Unix file system. Although NT does include the remote procedure call - and it is just the RPC - found in the Open Software Foundation's Distributed Computing Environment, DCE remains an embryonic technology. Unix users with NFS would have to change over to the unfamiliar - and untried - DCE or find themselves unable to integrate with NT easily. However, Microsoft now says it will soon formally announce support for the Sun Microsystems Inc PC-NFS networking technology that allows personal computer users to share files and services with Unix systems. SunSelect - Sun's PC-to-Unix connectivity satellite - demonstrated technology enabling NT users to access Unix systems via PC-NFS at last November's Comdex Fall trade show and the two firms have been in discussions ever since. It is unclear whether Microsoft intends to support PC-NFS on one or other or both client and server versions of NT.

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DATA GENERAL IN NEGOTIATIONS TO ASSEMBLE AVIIIONS IN HUNGARY

Data General Corp and its partner, Microsystem RT, one of Hungary's highest profile private companies, are talking about setting up an assembly and testing site for AViiON servers in the country. Microsystem technical director Andras Csicseri said that although no firm decision had been taken, comprehensive local support and the availability of technical expertise were critical to the region. He suggested that Hungary may act as a support centre for Data General's entire Eastern European operations, while a local manufacturing site could help the company secure more of the large projects currently being financed under the European Community's PHARE scheme - European-based suppliers are favoured under PHARE criteria. Data General is a relative newcomer to Hungary. But in December 1992, a month after taking a 5% stake in Microsystem, Microsystem won a contract from the National Labour Council to supply the central servers for a project, intended to computerise the management of unemployment claims. Details of the deal were previously unavailable due to the political sensitivity of unemployment issues in the country. Microsystem will supply Data General's AViiON 6280 and 6225 servers with an FDDI link, plus a 30Gb CLARiiON RAID 5 storage subsystem. The estimated total value of the contract is between \$10m and \$20m, but tenders are still being assessed for the mid-range and front-end sections of the project. The Council rejected a mainframe bid from IBM Corp, even though it has previously supplied equipment to the organisation. Csicseri estimates that for Microsystem's financial year ending September 1993, it will generate \$2.5m turnover from its Data General hardware business, up from \$500,000 last year. The company's total 1991 revenues were \$30m. Foreign investors include the Hungarian-American Enterprise Fund and the International Bank for Reconstruction & Development, and Microsystem shares its Budapest headquarters with Professor Erno Rubik of cube fame.

DIGIBOARD HAS UNIX VERSION OF DESKTOP I/O BOARD

Input/output controller board manufacturer, Digiboard Inc, Eden Prairie, Minnesota will release a Unix version of PC/2e - its two-port intelligent asynchronous board for desktops - and introduce a new Unix version of its fax software this quarter. The PC/2e has been targeted at Windows and NetWare markets until now - the Unix version includes serial ports for connecting personal computer local area networks using TCP/IP. Windows NT and LAN Manager support will follow later this year, the firm said. Digiboard is negotiating for IBM Corp's PowerPC division to OEM the thing. IBM already markets the Digiboard's 128-multiport intelligent cluster boards for the RS/6000s (UX No 411). Meanwhile, version 2.6 of Digifax, the company's distributed fax software, will be released at the end of the month. It supports multi-user and multi-modem connectivity on local and wide area networks, Hewlett-Packard Co Postscript laser printers, VGA graphics and has an X-viewer to view faxes on X-Windows screens. It runs under UnixWare and NetWare, SCO Xenix and Sunsoft Interactive Unix. Digiboard will show further offerings at the CeBit Hannover Fair in March, including an Apple A/UX, AppleTalk, X.25 and ISDN network hardware and software.

MOBIUS DEBUTS ITS PROTEGES

Emeryville, California-based Mobius Computer Corp has introduced a new family of 66MHz Intel Corp-based 486DX2 graphics workstations, called the Protege series. The Protege line comprises three machines. The P466ii is configured with 8Mb RAM, 212Mb disk, Ethernet interface, three ISA slots and a graphics subsystem which supports 1,024 x 768 screen resolution. It is priced at \$2,500. The P466icx, has the same configuration, but comes with an EISA bus system and a graphics accelerator. It costs \$3,000. A server model, the P466IS comes with 16Mb RAM, 540Mb disk, and eight expansion slots - it is priced at \$4,000. The machines will run Santa Cruz Operation Inc SCO Unix and Open Desktop, Univel Inc UnixWare, Sunsoft Inc Interactive Unix 3.2 and Solaris 2.x. +1 510 460 5252.

INFORMIX'S EAST EUROPEAN SUBSIDIARY

Informix Software Inc intends to set up a wholly-owned subsidiary in Eastern Europe during the next few months, but 80% of its business will remain with value-added resellers and distributors. Eastern European marketing communications manager Francesca Lahiguera said the company also plans to win a toe-hold in the Commonwealth of Independent States market, and will be "rooting around" for partners at the Comtek 93 show in Moscow in April.

INFORMIX SHIFTS EMPHASIS TO WINDOWS DEVELOPMENT

Leaving an OSF/Motif version of its 4GL++ object-based graphical development environment to tread water for a while, Informix Inc, Mountain View, California, is hurrying along Microsoft Corp Windows and NT ports in a bid for a quick return on its investment. Informix UK marketing manager, Tony Lacey-Thompson, said "we can't afford to ignore Microsoft's 90% stronghold over the personal computer market. Volume numbers of Unix-based PC's aren't there yet and Motif can't give us the cash returns we're looking for with this product". The switch to emphasize Windows - and NT - has impacted planned availability this quarter, and 4GL++ won't now ship until year-end (UX No 394). Informix is also gearing to release its new reporting tool, Storm, over the next couple of months with the promised Siemens Nixdorf Informationssysteme AG-derived data dictionary by June. Storm is a graphical query and reporting tool, enabling users to access, extract and manipulate data as in an executive information system fashion, the company says. Forms and reports can be created using a graphical front-end palette of tools. The data dictionary - being developed using SNI's Entity Relationship Model (UX No 409) - will form the basis of a planned Informix repository which is at least a year out and doesn't have a target interface environment yet.

HARLEQUIN SHOWS OBJECT SOFTWARE

UK language outfit Harlequin Ltd, Cambridge, which has moved its US operation to Cambridge, Massachusetts (from Salem, New Hampshire), was showing off its wares at last week's ObjectWorld '93 event in Boston. The company's core product is its object-oriented LispWorks development environment. Other packages, such as KnowledgeWorks - for designing and building knowledge-based systems are built on top of LispWorks. Current flagship product is HyperQuery, a graphical front-end database access mechanism that uses English language-like commands on top of SQL and has been ported to Informix, Ingres, Oracle, Sybase and Unify databases. European and Japanese language versions of the environment are planned and its application programming interface allows developers to integrate HyperQuery with external applications written in C or C++. HyperQuery runs under OSF/Motif on Unix kit, Microsoft Corp Windows, and is "NT ready," according to the firm. Harlequin has a range of tailored data presentation applications such as Watson - for criminal investigations - and a crew rostering system. UK Harlequin UK: +44 223 872522

UNIR TARGETS SPARCS WITH RE-NAMED C+at

Unir Corp, Naperville, Illinois, the systems integrator with the non-exclusive agreement to resell AT&T's object-oriented environment and language Calico as C3 (UX No 421), has decided to change the name of the language to C+at (say Cat) to avoid being confused with military product referred to as C3 (jargon for command, control and communications). Unir wanted to wait and push the stuff for Windows NT but then changed its mind when Sun Microsystems Inc brought out the Sun Classic workstation and looked like it was going to get a larger installed base. Unir also wants to port to Intel Corp platforms (maybe with BSD/386 or SCO) and AUX. Calico, which got started back in the early 1980s and which Unir claims AT&T couldn't push because of USL and C++, has reportedly 200 man/years invested in it.

FREEDMAN SHARP NEW NETWORK LOAD BALANCER

Canada's Freedman Sharp and Associates Inc has released its Load Balancer v3.1, an automatic job queueing and load distribution program for the network. It reportedly uses centrally maintained configuration information along with dynamically gathered performance information to choose the best suited computer for each application. Users can submit and manipulate their jobs from any machine on the net. The Load Balancer handles licensing, security, multi-platform speed/memory/swap differences, priority for interactive users, time-of-day limits on workstation usage and per-user permissions for each machine and application. It includes a network-wide batch queueing system with 256 priority levels. Tests in a 5-node seismic processing environment reportedly showed a reduction in the run-time of a series of jobs from 2.5 hours to 43 minutes. It will be available for Sun, HP, DEC and Silicon Graphics machines come April priced in the US at \$1,500. +1 403 245-0036

NEW SIEMENS-NIXDORF MACHINES AT CEBIT TO INCLUDE 12 PROCESSOR RM600,

Munich, Germany-based Siemens Nixdorf Informationssysteme AG (SNI) is set to launch new machines in its RM line of Unix V.4 mid-range systems at the Cebit Hannover Fair at the end of March. The new machines include the RM400 Model 10, using the 50-100MHz Mips R4000SC processor, and the RM600 model 25 multiprocessor, which uses from two to 12 R3000A Risc processors: both run SNI's Sinix V5.41 implementation of Unix, and should be generally available during the second quarter of the year. An R4000SC multiprocessor is also under development, and should be out in the third quarter. The company is also to market Silicon Graphics Inc's 50-100 MHz RW450 workstation using the Irix V.4 operating system. On the Intel side, the PCE-5S Pentium machine will be shown: it is currently running at 50MHz, but is eventually intended to be a 66MHz machine - all being well at Intel Corp. The PCE-5S will include built-in server features such as dual SCSI-2, on-board EISA-Ethernet, software controlled power-on/power off and security. Also out at Hannover will be a new version of SNI's UTM distributed transaction monitor for Unix, backup and spool programs, and a modularised version of the Sinix operating system for use on personal computers. SNI has spent years attempting to unify conflicting technology inherited when Siemens AG, SNI's parent company, fused its Data and Information Systems Group with Nixdorf Computer AG. It now seems resigned to abandoning further developments on the proprietary Quatro range and 680X0-based Targon systems it inherited from the Nixdorf side of the business, as well as its mid-range Intel-based MX line, in favour of the Mips-based RM Unix products. A third of SNI's revenue still comes from mainframes, and 18 new 7500 machines running the enhanced BS2000/OSD1 operating system - promised to be Posix compliant and running the Open Software Foundation's Distributed Computing Environment by the end of 1994 - will also emerge at Hannover. The company has also developed FHS-Doors for the mainframe, a graphical user interface allowing interoperability with MS-DOS, Unix and Windows applications.

OBJECTS: HP HAS DISTRIBUTED SMALLTALK

Among manufacturers, Hewlett-Packard Co is one of the furthest down the object-oriented route, and doesn't intend to surrender its lead. This week it introduced HP Distributed Smalltalk, claiming it to be the first complete implementation of the Object Management Group's Common Object Request Broker Architecture specification for distributed computing. The technology, based on the Smalltalk language, is designed to enable programmers to develop object-oriented applications that can be used simultaneously by multiple computer users. It adds features and services on top of the Object Broker and Smalltalk to provide a rapid development environment for portable applications to be shared by workgroups, including a full set of object services and many sample applications, in the hope that this will enable developers to build new application objects quickly. These objects will be able to link to data stored anywhere in the enterprise using the company's OpenODB object-oriented database. No prices were given. It cites the forecast of Hurwitz Consulting Group, Newton, Massachusetts that software products that incorporate object technology will account for over 60% of software sold in 1995.

REED CANCELS WHICH COMPUTER SHOW - UNIX SHOW UNDER REVIEW

In the UK, the Reed Exhibition Co Ltd has cancelled one of its biggest events, the PC-oriented Which Computer Show, which was to have taken place at the NEC, Birmingham this April. A number of late decisions not to participate, and too many prospects still undecided led to the decision, the company said. The cancellation coincides with the closure of Reed's computer and electronics division at Richmond, Surrey. The moves put the future of London's Open Systems Show, still currently scheduled for November, in much doubt. Further work on the show, which is sponsored by Unix user group Uniforum UK, will be carried out from Reed's Solihull, Birmingham office. Reed spokesman Ian Melville denied that the event had been cancelled, but admitted that a number of options were under consideration: one being the merger of the event with the bi-annual Communications Solutions Show, to be held at the Birmingham National Exhibition Centre next Spring. Last year's Open Systems Show went ahead without the support of some key vendors (UX No 405), and attracted fewer people than anticipated. Rival EMAP Exhibitions cancelled the European Unix Show at the beginning of last year (UX No 369). In its place it is running the Solutions with Workstations Show, at Olympia, between May 11-13th.

INTEROPERABILITY ENHANCEMENTS EXPECTED FOR TUXEDO TP MONITOR

Unix System Labs Inc will announce some significant enhancements to its Tuxedo transaction processing monitor on February 15th. TP watchers expect the new release to include greater interoperability features, such as links with IBM Corp's CICS/6000 transaction processing environment which is based upon Transarc Corp's Encina TP technology. Ways of providing higher levels of co-existence between Tuxedo and CICS/6000 have already been outlined in a Unix International guide prepared by UK firm Data Logic Ltd called "Open Enterprise Transaction Processing: integrating the Tuxedo system with mainframe CICS" (UX No 404). The London-based firm was responsible for melding Encina with CICS. At present, transaction processing systems and monitors can only swap files - new capabilities in Tuxedo will likely address the ability to process transactions and even parts of a transaction in a CICS/6000 environment. Such functionality requires a set of application programming interfaces allowing Tuxedo and CICS/6000-based TP systems to acknowledge each others' transaction requests. Indeed, TP watchers say a range of interfaces are urgently needed to unify disparate OEM Tuxedo implementations along with a fourth generation language tool. Other things USL could usefully address, they say, are a systems management solution and a distributed security environment for Tuxedo.

RAXCO AND UIS TIE THE KNOT

Digital Equipment Corp systems management provider Raxco Inc, Rockville, Maryland, and UK-based UIS Ltd, Epsom, Berkshire are to merge after more than a year of negotiations. The new entity called Raxco/UIS Inc will be headquartered in Raxco's offices, Rockville. Former Raxco chief executive officer and president, Richard Lefebvre, will head the operation. The firm's combined European operations will be run from UIS' UK-based Epsom offices - existing UIS European subsidiaries will remain open. Raxco will close its UK Richmond, Surrey office and staff relocated to Epsom. The firm will market a combined complement of DEC VAX/VMS and Ultrix software, which comprises security management software, resource management and file and retrieval storage systems.

MICRO FOCUS OFFERS CONCURRENT USER PRICING ON UNIX

Micro Focus Plc has come up with a new method for charging for licences to its Unix software, which it calls Unix Concurrent User Licensing. Under it, the cost of software is tied to the number of users who actually use the software rather than an arbitrary number of perceived users. Micro Focus Cobol for Unix v3.0 is now \$1,250 per concurrent user under the new plan, Toolbox for Unix v3.0 costs \$625 per user, the two together are \$1,875, and Dialog System for Unix v3.0 is \$1,250 the firm said.

JACQUES STERN'S FIRM IS ALPHA LICENSEE

Digital Equipment Corp has found its first partner in France for the Alpha AXP RISC in the shape of a start-up company formed by Jacques Stern, founder of software and systems integration house Sesa SA and former chairman and chief executive of Compagnie des Machines Bull SA. The new company, Advanced Computer Research International SA, or ACRI, of Lyon, has signed a co-operation agreement with DEC France under which DEC will take an undisclosed minority stake to seal the pact. DEC's 64-bit Alpha AXP microprocessor will be incorporated in the original architecture of the parallel ACRI system and the two companies will work together to optimise DEC's implementation of the OSF/1 Unix operating system for highly parallel multiprocessor systems. Richard Poulsen, the new president of Digital Europe, commented "We were impressed by the ACRI system architecture design and the outstanding quality of its international team. This collaboration between DEC and ACRI will play a key role in building a competitive high performance computing infrastructure in Europe as reflected in the European Commission's recent Rubbia Report" - the European Commission asked Professor Carlo Rubbia to chair a committee of experts from industry and public research laboratories to assess Europe's standing with respect to high performance computing and networking. The report, presented in November 1992, said that while Europe was totally absent from the vector super-computing arena, there was a unique opportunity to establish a high performance computing and networking programme.

INTERNATIONAL BUSINESS MACHINES

HOPE FOR NEW INTERNAL JOINT VENTURES

IBM Corp's Advanced Workstations & Systems Division (AWS), the company's increasingly pivotal RISC systems unit, is smack in the middle of two internal joint ventures that together with AWS could be the remaking of IBM, given enough time. Last week AWS let out that it had clasped hands with IBM's once-proud flagship, its now-sullied mainframe operation Enterprise Systems, in setting up a co-funded unit to develop scalable mainframe-class multiprocessor RS/6000 RISC-based machines such as the SP1 Power Parallel system showed off last Tuesday. However, before that, in December, AWS announced internally that it had cut a similar deal with IBM's Entry Systems Technology Group to set up a Personal RISC Systems joint venture to design, build and market all of the company's PowerPC-based goods as well as such items as the X terminals and PC-priced M20 baby RS/6000s introduced last week. Maybe even hand-held devices. Both initiatives, to be run as profits centres, are the work of AWS president Bill Filip and his peers. They are not imposed from above nor was the consent of the top floor or the company's famed Executive Committee apparently even sought. Strategy for Personal RISC Systems began to be laid two years ago, according to Filip, who consulted with PC chief Jim Cannavino and cut the deal with Nobi Mii, head of the Entry Systems Technology Group. Willie Shih, who heads development of workstations at AWS's main Austin, Texas facility, has been named to run the unit, which will apparently be headquartered in Boca Raton, Florida, home to IBM's PC operation. Filip, Mii, assistant general manager Lee Reiswig and IBM's Research vice president Jim McGroddy are on the venture's board, Filip said. Other executives may become involved. This entry-level operation will be responsible for putting AIX Lite (UX No 369), OS/2, Hunter Systems' XDOS and a Macintosh emulator on the M20 later this year, Filip said, a move still capable of producing a chill in competitors like Sun Microsystems Inc.

...POWER PARALLEL SYSTEMS BUSINESS UNIT

Meanwhile, at the high end, there is the new Power Parallel Systems joint venture with Filip's predecessor at AWS, Enterprise Systems' chief Nick Donofrio, as chairman and Filip and McGroddy on the board. The organisation is being run full-time by general manager Irving Wladawsky-Berger, formerly Enterprise Systems' assistant general manager of supercomputing, and part-time by AWS systems and technology vice president Phil Hester. The unit is meant to revivify IBM's large systems with RISC technology and as such its charter includes developing 390-based offerings like AIX/ESA and 390 supercomputing market development. (Considering the cries for a more revolutionary approach it sounds a lot like the same old thing, doesn't it.) The business will be involved in supercomputing application management, supercomputing strategies, systems development, software development, services and support. System development will incorporate the work of IBM's Highly Parallel Supercomputing Systems Lab, RISC-based mainframe and workstation technology development. Filip said the Personal RISC unit would focus on implementing the single-chip PowerPC 601, 602, 603 and its architecture. (One of Florida's daily papers, however, quoting the internal memo suggested the venture would also move its stuff to Intel's Pentium.) Power Parallel, on the other hand, will content itself with multi-chip versions of the current RS/6000 chip Rios, Filip said. In some cases these Rios 2 chips will overlap the PowerPC in performance while others should outperform it 50% to 100% at the same clock speeds thanks to superscalar technology. McGroddy is also kicking some financial resources into Power Parallel and will help with chip design, high-speed switching and parallel compilers. In between these two new efforts sits Filip's Advanced Workstations & Systems which has, he notes, taken unto itself over the last year all the ingredients needed to be a stand-alone company bar a dedicated sales force. The sales force is a problem they've been working on for awhile and could be in a position to snap off in a few months. AWS will focus on workstations and servers, uniprocessors and SMP configurations as well as clusters and parallel machines with distributed and shared memory. It will continue working on Power 4, a special 4-way RPQ RS/6000 with both distributed and global memory.

IBM's Advanced Workstations & Systems president Bill Filip said last week that the company's emergent RS/6000 business broke even or may have even done better than that in calendar 1992 though it was still "overinvesting on development." The figures for the full year are still a bit squishy because of items like estimated costs but the unit is positive it was profitable in the fourth quarter. Demand, he said, continues to be strong, above 1992, claiming that they are "almost sold out for the quarter." Commercial and technical are at parity.

**IBM FRANCE FORMS UNIX SYSTEMS DIVISION;
HARDWARE OUTLOOK FOR 1993 IS BLEAK**

IBM Corp in France has created a Unix systems division to try and fulfil its aim of becoming market leader by 1994 and, in particular, to focus on high-margin software and services. The operation has 100 staff to deal with sales and technical support. "IBM is tying itself strongly to Unix," said director of the new division Jean-Louis Descharreaux. "It is clear that there is a place for Unix in the information systems architectures of all our customers, so we intend to accelerate our activity in this market." He said that in 1992, IBM France generated approximately \$175m of turnover from its RS/6000s and related software and services. Although he had no figures for 1992 Unix sales worldwide, he did note that France normally comprises 16% of European Unix revenues. While 1992 volume sales of Unix computers in France grew between 30% and 35%, turnover from this sector only increased between 0% and 3%. Descharreaux said the trends that characterise the personal computer industry - growth of unit sales, but flat revenues and diminished profits - are beginning to show in the Unix market too. As a result, he said, Unix software and services will increasingly generate higher profits and growth. In fact, he said, one of the reasons IBM France decided to set up the new division was to cater for software partners and other customers. Descharreaux expects first half 1993 turnover in France to be "terrible, due to the constricted investment climate", adding, "Don't forget there have been eight consecutive quarters of decline in investment in France". He anticipates that Unix system revenues will be similar to 1992.

FILENET ADDS NEW RS/6000 MODELS

FileNet Corp, Costa Mesa, California has added two new models of its Series 6000 family of servers based on IBM Corp's Power RISC. The Model 6220, based on the RS/6000 Model 220 is an entry-level desktop server, intended to provide an imaging system at a price comparable with many standard personal computer servers, but running the image management and WorkFlo software. The Model 6580, using the RS/6000 Model 580, is the new top-of-the-line server, with 35% more performance than the Model 6560. They run under AIX/6000 Version 3.2, and FileNet is now supporting disk mirroring, with redundancy for all data files. They ship in March at from \$14,400 for the Model 6220 and from \$85,000 for a Model 6580. And FileNet is to put its FileNet's document imaging and WorkFlo software products up on Hewlett-Packard Co PA-RISC systems by year-end.

BLUE BITES

IBM is very touchy on the issue of morale: last week in New York when we got around to asking Bill Filip what the mood was around the joint, the spin doctors converged and shuffled him off. Good thing we waited until the end.

At the RS/6000 launch, Filip said that the workstation business was definitely profitable in the fourth quarter of 1992, and in the current quarter has been growing faster than the 30% to 35% achieved for all of 1992. Filip said that figures for all of 1992 were not clear enough to state if the workstation business was profitable in the year but in the fourth quarter, even assuming a margin of error in accounting for the workstation operations as a distinct business, the operation clearly was profitable.

IBM has been counting up its hangers-on and finds that it currently has some 40 OEMs doing things like boards and systems with the PowerPC chip.

IBM is expected to launch 18 new ES/9000s mainframes this Tuesday, ranging from air-cooled 9121 frame models to the eight-way 9021. And IBM has a further round of announcements set for next Tuesday 16th which will see the AS/400 move into the open systems frame with new Posix functionality and possibly a future game-plan that would see it share Rios 2 - or beyond - chip architectures with the RS/6000.

That's right, hit the company when it's down. The Peruvian headquarters of IBM Corp were severely damaged and at least 17 people were injured after urban guerrillas of the Maoist Shining Path terrorist organisation detonated a powerful car bomb in front of the computer company's offices in southeast Lima. According to *United Press International*, the explosion blasted out hundreds of windows in the area and caused a mushroom cloud of smoke that rose nearly 250 feet.

IBM JOINS THE FRAY - GOES FOR SUN, HP WITH SUB-\$4,000 RS/6000

As well as updating its RISC System/6000 series with new machines designed specifically for commercial, technical and parallel computing markets (UX No 420), the company last week pitched itself into the thick of the Unix workstation price war with the introduction of a sub-\$4,000 offering. With the exception of the parallel technology, the new uniprocessors use IBM's basic Rios 1 RISC chipset. On the technical side, the most interesting new addition is the \$3,995 - £3,908 - 33MHz PowerStation M20 workstation, which comes with 16Mb to 64Mb RAM, two-dimensional Power Gt1 graphics, 17" colour monitor and is rated at 16.3 SPECint 92 and 26.7 SPECfp 92. There are three other upgradeable desktop offerings, the \$16,000 - £7,800 - 42Mhz PowerStation 355; a \$19,500 - £9,970 - 50Mhz PowerStation 365 and a \$25,230 - £16,360 - 62.5MHz PowerStation 375. All come with from 16Mb to 128Mb RAM, 400Mb to 2Gb disk, Power Gt3i graphics, 19" colour monitor and are rated at 40.5, 48.4 and 59.8 SPECint 92 and 81.6, 97.0 and 118.2 SPECfp 92 respectively. On the commercial track there is a new 50MHz and PowerServer 360 and 62.5MHz PowerServer 370 - they can also be configured as workstations - which are priced at from \$19,700 - £11,220 - and \$25,700 - £18,850. The desktop machines, which come with up to 256Mb memory RAM, 400Mb to 2Gb disk, are rated at 48.4 and 59.8 SPECint 92 and 97.0 and 118.2 SPECfp 92 respectively. Deskside 50MHz PowerStation and PowerServer 570 configurations - with 32Mb to 1,024Mb memory and 2Gb to 7.2Gb disk - are 50% faster than the existing 530H models, IBM claims. The 570 is rated at 48.4 SPECint 92 and costs from \$45,475 - £34,680.

New rack-mounted 50MHz 970B and 62.5MHz 980B servers come with 128Mb memory - double that available on the existing 970 and 980 equivalents. The two systems come with from 4Gb to 37Gb disk - the 980B has eight additional expansion slots - and are rated at 47.8 and 59.2 SPECint 92 and 101.0 and 124.8 SPECfp 92 respectively. The 970B starts at \$97,825 - £86,375 - the 980B is \$117,825 - £109,680. The commercial 360, 370, 570, 970B and 980B models can also be configured as technical systems. All the new RS/6000s are available in March, along with a new X-terminal, the Xstation 150 - priced at \$5,550 - with a claimed performance six times that of the existing model 130, and the Legato Systems Inc-derived tape back system and software.

Auspex file servers

First fruits of IBM's tie-up with Network File System server specialist Auspex System Inc, Santa Clara, California, are also built around the basic Rios 1 chipset. The 7051 network file server models 800 and 840 - aimed at sophisticated network system users - come with up to eight Ethernet ports and up to 48Gb and 144Gb disk respectively. Prices go from \$177,600 with deliveries to begin in May.

Parallel, multiprocessing

Long-awaited multiprocessing - as distinct from parallel processing - RS/6000s, on which Compagnie des Machines Bull SA is collaborating with IBM, are due volume at the beginning of 1994, if you listen to Big Blue. On the other hand, Bull is promising a multiprocessing version of AIX in the third quarter and says it'll have multiprocessor boxes in the fourth quarter. The multiprocessor will use the multi-chip, single board Rios 2 Power implementation which is due in the second half of the year. Rios 2 parts will also find their way into IBM's widely previewed high-end parallel computing effort which will come as a scalable, eight to 64 processor, one-to-eight 8GFLOPS Power Parallel RISC/6000 9076 SP1 system running AIX Unix version 3.2. It starts at \$312,000. The machine is the first to emerge from an alliance between IBM's Advanced Workstations and Enterprise Systems divisions and will ship in October.

PowerPC

As far as the PowerPC RISC is concerned, IBM says the 603 - for notebooks and entry-level desktops - the 604 - for mid-range and multiprocessing desktops - and the 64-bit 620 multiprocessing part, designed for commercial systems, will be out at the end of next year or beginning of 1995. IBM said growth of its 1992 Unix business was lower than expected - it blames price competition and low margins. Europe accounted for \$1bn, or 43% of IBM's worldwide Unix revenues last year. With a 28% share, Germany was IBM's largest European Unix market. France contributed 16%, with the UK at 15%. Desktop RS/6000s accounted for 47% of Unix sales in Europe.

OSF SIGNS UK'S PROTEK AS BUSINESS PARTNER

The Open Software Foundation plans to establish a string of new business partnerships across Europe and the US and which will provide support, training, education and consultancy services for users and potential OSF technology customers. First to sign on the dotted line is UK distributor Protek Ltd, Maidenhead, Berkshire, which will focus on the Distributed Computing and Management Environments. With OSF's help, Protek will have a training and integration centre up and running by May with a range of hardware platforms running DCE. It'll be staffed by eight Protek employees currently being trained by OSF and Protek will bring a further 50 industry consultants onto the project in the near term. Financial costs of establishing the programme are to be split between OSF and Protek, likewise; revenues generated by the project will be split between the two.

PROTEK TO MARKET TIVOLI FRAMEWORK...

In addition, Protek has also signed a UK marketing agreement with Austin, Texas-based Tivoli Systems Inc to supply and support the object-oriented Tivoli Management Framework software, a key component of OSF's Distributed Management environment, also being used by the likes of Unix System Labs and SunSoft Inc. Protek is offering the Tivoli software at £800 per seat.

...OSF PROMISES DCE PACKAGES IN MAY

Meanwhile, OSF claims there are some 150 pilot sites up and running DCE and promises packaged DEC-based applications will be on show at its interoperability Challenge '93 exhibition in Boston this May (UX No 404). Meanwhile, the OSF/1 operating system, currently trading water whilst potential suppliers like DEC and HP work out their Unix strategies, will have 2,000 applications available for it by the end of the quarter, OSF claims. And like IBM Corp, Hitachi Ltd is now expected to endorse OSF/1 MK, the Carnegie-Mellon University Mach-based micro-kernel version of the OSF operating system.

ALAN COHEN'S COBOL-TO-C CONVERTER

UK software consultancy, Alan Cohen Consultancy Ltd, London, is moving into the Unix market with AL/1, its source code analysis toolkit for users looking to downsize Cobol-based applications to C. The company has signed software Hypersoft Corp to market the kit worldwide. AL/1 enables users to analyse and migrate mainframe-based Cobol data to personal computers. The software acts as a transformation engine and feeds converted data into spread sheets and libraries, as well as database repositories and Data Structure Models for analysis before an application is re-engineered. AL/1 runs on PCs under Unix and MS-DOS and on DEC VAX/VMS systems. Unix versions are priced at from £1,500. Hypersoft UK +44 273 834596

EUROPEAN ROUNDUP

Belgian firm **BIM sa/nv** claims its ProLog compiler has achieved 1,275,000 inferences per second on a Sun Sparcstation 10 Model 30: the compiler costs \$9,000. +32 2 759 5925.

Minitech UK Ltd, Derby, claims its Warp Drive disk array can improve input/output processing speeds by up to 300% with access times of less than three milliseconds for Unix sites with 4Gb or more database data. +44 332 521235.

Oxnard, California-based, **Network Research Inc** has signed UK-based **Workstation Source Ltd**, Maidenhead, Berkshire, to distribute its Fusion family of network products. +44 628 75252

Sun Microsystems Inc SparcCenter 2000s are ousting IBM, Amdahl Corp and ICL mainframes at Durham, Hull, Leeds, Liverpool, and Newcastle universities. And **Sema Group Plc** is working with Sun to put its Pleiades suite up under Solaris.

RTS Ltd, Isle of Man, is to package **JIMI Software Consultants Inc's** CExecutive real-time operating system with **Network Research Corp's** Fusion TCP/IP. +44 624 623004

O2 Technology SA, France, has signed Horsham, West Sussex-based, **Tenet Systems Ltd** to market its object-oriented database in the UK. O2's database includes an object-based manager, the O2C 4GL, O2SQL query language and O2Look interface toolkit. +44 403 711555

Unix SVR4.2-on-Intel house, **Consensys Corp**, Toronto, Canada, has signed a boatload of European distributors for its Consensys 4.2 implementation of **Unix System Lab's** desktop operating system: **Garmhausen and Partner Belgium**, Sterre beek, Belgium; **RCM Company AB**, Karlstad, Sweden; **Garmhausen & Partner GmbH**, Bonn, Germany (for Croatia, Czechoslovakia, Hungary, Poland, Romania and Slovenia); **Future Soft**, Paris, France and **Onsite Computer**, Allershausen, Germany - the rest of Europe will be handled by Consensys' European operation in Reading, UK. +44 734 833241.

Embedded Sparc system supplier, **Force Computers Inc**, Campbell, California is to OEM graphics accelerators from UK firm **Du Pont Pixel**, Egham, Surrey. +44 784 470 555.

Pick Systems Inc has appointed Glyn Yarnall as UK sales director.

Data Sciences UK Ltd, Farnborough, Hampshire, has appointed **Hospitality Perspectives Inc**, Stamford, Connecticut, to distribute its Champs property management system in the US. Meanwhile, the UK firm is to market Toronto, Canada-based **SLM Software Inc's** ESP-Link financial software in Europe. +44 252 544321.

Adobe Systems Inc wants UK resellers for its Unix technology.

UK, Cambridge-based, **Tadpole Technology Plc**, has the first multi-processor implementation of **Motorola Inc's** 88110 on VME architecture. Tadpole did the design for a large customer who reportedly has 88110 samples. The real-time computing engine takes one or two 88110s to get to a maximum 200 MIPS/200 MFLOPS. When it becomes generally available, Tadpole's dual-processor TP810V, which supports the pSOS+ operating system, will go for \$9,250.

Micro Focus Plc's Cobol tools are to be encapsulated into HP's SoftBench.

Ingres is being ported to the Topsy loosely-coupled computer at the **London City University's** Parallel Applications Centre: Topsy runs a distributed Unix-compatible kernel called Meshix, and uses Motorola 68030 or MIPS R3000 chips.

UK firm **Object Designers Ltd**, Henley-on-Thames, Oxfordshire, has launched a sister company - **Object Trainers Ltd** - geared to providing courses on all types of object technology across Europe. +44 491 410222.

Version 5.0 of Redwood City, California-based **Ross Systems' GemBase 4GL** is now available in the UK for DEC OpenVMS, Ultrix, OSF/1 and **Hewlett-Packard Co's** HP-UX: +44 272 221850.

Australian controller board manufacturer, **Stallion Technologies Pty**, Brisbane, has introduced Easyreach, an intelligent cluster-based I/O solution for Unix systems supporting up to eight cluster boxes: prices start at £1,575. +44 21 778 6153

Oracle UK has developed a front end customer service system for **Telecom Securicor Cellular Radio Ltd's** Cellnet mobile phone users: it runs on **Hewlett-Packard Co** Unix systems but will take two years to implement across the firm's sites.

Atel, Milan, is to distribute the Tadpole Technology plc Sparcbook notebook in Italy.

Software engineering house **LBMS** has appointed Stephen Jermyn to head up its UK CASE sales operations: he joins from **Ernst & Young** where he was managing director.

Darmstadt, Germany-based **Software AG** now supports TCP/IP for Unix, VMS, Novell Inc SPX, Netbios and IBM SNA LU6.2 protocols in its Entire Net-Work communications software.

Inglewood, California-based **Locus Computing Corp** has recruited French company **Pacer Europe SA**, Paris, to distribute PC-Interface for **Apple Computer Inc** systems across Europe: PC-Interface enables MS-DOS, Windows, Macintosh and NetWare users to share files, applications and print services on Unix servers.

Protek Ltd, Drayton, Middlesex, has developed Graph/X, a set of 40 widgets for Montreal, Canada-based **Visual Edge Software Inc's** UIM/X graphical user interface builder: available in the UK it is priced at £7,000. +44 628 75959.

French software house **Ilog SA**, Gentilly, Paris, has introduced Ilog Views, a C++ toolset for drawing, animating and editing portable two-dimensional objects for Motif, Open Look and Windows. Ilog UK Ltd: +331 4663 6666.

Massively parallel Unix system builder **Parsystec GmbH**, now established in St Petersburg, Moscow, Varna, Budapest and Prague via its Chemnitz, Germany-based Eastern Europe division, has won the Russian Academy of Sciences as a customer for its transputer-based Giga Cube which runs Parix, the company's parallel extension to Unix environment.

Amsterdam, Netherlands-based **Uniface Corp** has joined **Digital Equipment Corp's** Complementary Software House programme and will provide support for DEC's Network Applications Support (NAS) software and 64-bit Alpha AXP systems.

Locus Computing Europe has signed Swiss distributor **Credal AG**, Zurich, to market its products in Europe. +41 1741 1115.

Rank Xerox Ltd has chosen France for its second European research laboratory (the first is in Cambridge), for which Italy, Germany and Spain were also in the running. The lab, to cost \$20m over four years, will be in Grenoble and will employ about 150 researchers working on advanced computer methods of retrieving and translating documents into different languages. The French government will pay about 10% of the cost in the first two years.

According to **ROCC Computers Ltd**, the Unix market in the Czech and Slovak republics is starting to move because customers there have more cash to spend on new systems than other central European countries. The firm has won contracts worth approximately \$100,000 to supply Motorola Unix computers to four companies in the Czech republic.

In the UK, Unix software house **Motis Systems Ltd** has moved offices to Salford, Manchester: it was previously based in Warrington. +44 61 877 7544.

Software distributor Berkhamstead, Hertfordshire-based **AI International Ltd** says its begun shipping **ParcPlac Software Systems Inc's** ObjectWorks C/C++ Unix development environment. ObjectWorks is available on **Sun Microsystems Inc** Sparcstations and IBM RS/6000s - and is priced at £4,000. +44 442 876722.

Motorola Computer Group has appointed systems integrator **Datapoint UK Ltd**, London, as a reseller for its Unix RISC 88000-based 8000 systems in the UK.

The **Hungarian Central Statistics Office**, has upgraded its computer centre signing an \$11.5m deal with **Hewlett-Packard Co** to replace its **IBM Corp** 4381 mainframe with Unix kit. The Office is now waiting for approval from the European Community, which is partly funding the project: agreement by the EC is expected to help Hewlett-Packard in its aim of making the Hungarian system a reference point for other Eastern European state organisations.

MARKET ROUNDUP

Intel Corp says it has now received over 30 orders for its Paragon parallel supercomputer, which began shipping in September, and **Thinking Machines Corp**, Cambridge, says it has 20 CM-5s already installed with customers; it just sold a \$15.8m CM-5 to the **University of Illinois National Center for Supercomputing**.

Nashua, New Hampshire-based **Storage Computer Corp** has introduced StorComp RAID 7 which features an asynchronous hardware design with a real-time embedded operating system to control access to the disk drives and data flow to the host. StorComp RAID 7 platforms are available in desktop, integrated rack-mount and modular configurations with one to 141Gb of protected storage capacity on network file servers, Unix workstations including Sun Microsystems Inc Sparcs, IBM RS/6000, DEC and HP and mainframes. Available now, StorComp RAID 7 is priced from \$16,000 to \$19,500.

Eden Prairie, Michigan-based, **Emphasys Software Inc's** RPG-to-Unix migration software, Cross/36 RPG, now supports **Hewlett-Packard Co** Unix systems.

According to US reports, **Oracle Corp** has sent out beta copies of 14 next-generation application development tools to developers. The difference between these and existing Oracle tools is that these will be the first designed to develop client/server applications for other databases.

Dickens Data Systems Inc has picked up **Data General Corp's** Clariion storage system to distribute for the IBM RS/6000 servers it resells to US VARs. Pricing begins at \$28k for a 2.5GB system. It's also picking up DG Clariion tape arrays for the 6000.

Cayman System Inc, Cambridge Massachusetts has updated its XGato software for turning a Apple Macintosh into a X-Window client for users of standard server release 2.0 which support colour monitors. It also adds zoom in screens, automatic application launch and remote restart: it costs \$30 for a single user license or \$3,000 for 10.

Ing C Olivetti & Co SpA is expected to report operating losses of up to \$245m for 1992 in its end of year figures due over the next couple of months, according to Italian press reports. Following poor 1991 figures, ongoing cutbacks and restructuring charges will again contribute to another large net loss at the company. Reports suggest that up to 5,000 of Olivetti's 46,000 staff could be laid off under the company's latest restructuring plan for the coming year.

Micro Decisionware Inc has agreed with **NeXT Computer Inc** to provide connectivity between NeXTStep and its Database Gateway product line. The strategic pact provides for certifying NeXT's Database Kit, its object-oriented Release 3 desktop tool, accesses DB2 and other databases through Database Gateway. NeXTStep customers will be able to access DBA, SQL/DS and non-relational host data.

Marlborough, Massachusetts-based **Stratus Computer Inc** has signed with **Unix Systems Labs** to sell and support USL's version of the Open Software Foundation's Distributed Computing Environment, DCE/SVR4. Stratus expects to release a DCE/SVR4 edition of its Unix fault-tolerant operating system, FTX, in the second quarter.

A special \$20 edition of the **The X Resource** journal is devoted to draft specifications of the **X Consortium's** X Wire protocol for version 4.12 of the X Image Extension standard: +1 707 829 0515.

Reports suggest **Microsoft Corp** has nearly completed a compiler that will be used internally to generate applications for the PowerPC RISC being developed by Apple, IBM and Motorola.

Microsoft Corp is expected to introduce a new version of Microsoft C/C++, renamed Visual C++, this quarter: now in beta test, Visual C++ includes Visual Workbench - a Windows-based development environment - foundation class libraries, App Studio - an editor which alters bit maps, dialogue boxes and cursors - as well as debuggers and browsers. Visual C++ is not compliant with AT&T's CFront 3.0 C++ environment.

Could it be that **Sun Microsystems Inc** president **Scott McNealy's** voice is being heard this side of the Atlantic, after he reportedly told **Novell Inc's** **Ray Noorda** to fire everyone at **Unix System Labs** except a handful of marketing guys and the engineers? (UX No 421). Last week, London-based **USL Europe** made four of its 40 staff redundant - jobs went from accounts, marketing, technical and systems administration departments. According to an insider the cuts were made "to satisfy calls from **Novell** to get costs down," before the acquisition is complete. **USL Europe's** poor financial performance over the the year also contributed to the decision. The redundancies apparently came as a complete surprise to **USL** staff who were assured before Christmas that no jobs would be lost through the **Novell** deal.

And its not good news down the road at **Unix International Europe** either. **UI** is having to downgrade some of its marketing activities in Europe because of a new budgeting arrangement which allows member companies to determine how, and in which geographical areas their donated cash is spent. Most US companies it seems, want their membership fees spent over there. Their European subsidiaries will have to stump their own monies towards a pot that also includes fees from the likes of **ICL plc**, for **UI** European campaigns. First to suffer is **UI UK's** hard-working public relations agency, now retained for project work only.

Microvitec Plc, Bradford is to sell its loss-making **Logitek Plc** distribution division to its management for £2.49m. It bought the firm for about £3.5m in shares in May 1991. The sale will cut **Microvitec's** gearing to under 50%.

Hewlett-Packard Co and **Cimage Corporation** have signed a strategic agreement for the **Cimage** document and image management software to **HP's** Unix-based Series 70 workstation and Series 80 servers. The package includes **Cimage Document Manager**, **Engineering Workflow System** and **ImageMaster** software **Cimage + 31 76 3147**.

Massachusetts-base **Ipswitch Inc** announced **Merq**, its NFS client for **Novell Inc's** **LAN WorkPlace**, which let OS/2 users access files on networked NFS servers.

Distribute Processing Technology Inc, Orlando Florida say its 32-bit EIS SCSI driver features **SunSoft Inc's** **Solaris-on-Intel** operating system.

Marietta, Georgia-based, **Maxtech Computer Technologies Inc** has launched, **Double Vision**, remote control software for **Intel Corp** iAPX-86 Unix platforms: **Double Vision** allows one user to control another user's terminal - both screens look identical to the user and the terminal's keyboards are interchangeable. Prices start at \$500 for a 32-user licence.

Nashville, Tennessee, **Arnet Corp** has introduced an X-Windows facsimile viewer programme for **Intel** iAPX-86 Unix systems: prices start at \$1,300. The company has a new director of marketing, **Fred Berry**, who joins from **Emulex Corp**.

Concord, Massachusetts-based, **Software Maintenance and Development Systems Inc** has launched **Lakota**, an embedded kernel for adding object-oriented features to existing software: available on Sun, IBM, DEC and HP Unix workstations, prices go from \$3,000.

Candle Corp is implementing **Posix 1003** and **1003.4** real-time extensions for **IBM's** **MVS/ESA 4.2** operating system running 3090 and **ES/9000** mainframes: testing begins now, **Posix-compliant** versions will ship next year.

Westborough, Massachusetts-based, **Epoch Systems Inc** has unbundled its Sparc-based **EpochServ** network data management software, previously only available on its **Epoch-2** Data Servers for OEMs and resellers: **EpochServ** is priced at from \$27,500.

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Sun Japan, which just released **Sun Microsystems Inc's** latest low-end boxes, plans to ship 10,000 Sparc Classics, 6,000 LXs and 2,000 SparcCenter 2000s the first year out. **Fujitsu Ltd**, **Toshiba Corp** and **Fuji Xerox** will also ship the boxes OEM from Sun.

Locus Computing Corp has been given a grant by the **US National Science Foundation** to investigate system software optimised for networked portable computers. It's for initial research into the unique problems experienced by portables users when detached from the network like loss of access to data. Locus vice president of corporate marketing, **Chris Sanders**, claims what's needed is a "virtual network" so important services are still available. Some results are expected this autumn.

Two struggling companies, **Sequoia Systems Inc** and **Ultimate Corp** have decided that squabbling will get neither of them anywhere, and have settled the lawsuit brought by **Ultimate** alleging that **Sequoia** had violated the terms of an agreement under which **Ultimate** resells **Sequoia** machines.

Jeff Papows, president and chief operating officer of Canadian software house, **Cognos Inc**, **Ottawa**, will be replaced by vice president of business management and development, **Ron Zambonini** at the end of **Cognos'** fiscal year in October. **Michael Potter** will remain chairman and chief executive officer.

DEC has cut a joint marketing deal with **AT&T** that will port **AT&T's** **BaseWorX** Applications Platform to the **Alpha** family running **OSF/1**. The system will be pitched at the telecoms industry.

SunSoft Inc is out dropping bombs in **Santa Cruz Operation Inc's** backyard: it's running a two-page advertising spread in **SCO's** vanity press **SCO Magazine** headlined "Just Say No to SCO and Watch Your Profits Grow."

We're getting mail back from **Winix America Inc**, the **Beaverton, Oregon** start-up that did the combined **Windows 3.x/Unix** networking software for the **Norwegian** government and then **Americanised** it (**UX No 380**), marked "out of business."

Burlington, California-based Object Design Inc has put **ObjectStore**, its object-oriented database system, on **SunSoft Inc's** **Solaris 2.1**, making it the first object database ported to the system. **Object Design** and **SunSoft** already have a deal for **Object Design** to develop a **Persistent Manager Engine** for **Sun's** object-oriented environment **Project DOE**. This technology will reportedly provide **Solaris** users with upwardly compatible **Object Store** functionality and supply the basic storage capability for applications using **SunSoft's** **OMG-compliant CORBA** software.

Information Presentation Technologies Inc and **Xcelerated Systems Inc** have made their respective products **Partner** and **Liken** 100% compatible. **Partner** allows connectivity between **Sun** and **Mac** platforms; **Liken** allows **Mac** applications to run on **Unix** stations in an **X Window**. Now **Liken** will have continuous bi-directional connection to networked **Macs** and **Partner** will be able to run non-Sparc specific versions of **Mac** software on networked **Suns**.

Los Angeles, California-based Tiger Media, the multimedia authoring start-up, has gone down the tubes: its venture capitalists sold off the assets last month to **New Hampshire-based AlmTech Inc**, a **PC** company.

San Rafael, California-based Island Graphics Inc has acquired the **Motif-based eXclaim!** graphical spreadsheet and **Master Plan** project management software from 10-year-old **Quality Software Products Inc**, **Culver City** on undisclosed terms. In the second quarter, **Island** will ship **Island-branded** versions of the products that will share text, data and graphics with its own **Island Write, Draw & Paint** and **IslandPresents**. Meanwhile, it will move the **Quality** versions for **Sparc, HP** and **IBM**.

Corollary Inc has picked up **Truger Technologies Inc** in **Canada** and **PC Distributing Inc** out of **Illinois** to distribute its communications and multiprocessing lines.

Ex-Sun Microsystems Inc executive **Bill Keating** who traipsed off about 18 months ago to become vice president and general manager over at **Rational Inc (UX No 349)** is now winding down out of that job and consulting with the new **Lachman Technology Inc**, helping to get that start-up going (**UX No 418**). However it doesn't look as if he'll take the presidency there. **Chicago's** too cold. So he'll be on the loose soon. +1 415 961 0500

Roel Pieper's 10-month-old promise to set up 10 international joint ventures for **Unix Systems Labs (UX No 380)** is reportedly bearing more fruit. The company has done deals in **France** and **China** already and will soon have **Unix System Technology** structures set in **Mexico, Canada** and **Australia**.

Suppose, just suppose, that all this sudden talk of finding a successor for **Ray Noorda** at **Novell Inc** doesn't mean the man is moving out but moving up - up the board of **AT&T**. Apparently there's a dose of speculation that the new relationship between **Novell** and **AT&T** is a lot deeper than they're letting out and will eventually result in **AT&T's** acquisition of **Novell**. In the meantime, **AT&T** could be a neat vehicle for **Novell's** schemes. Besides which it's a heck of a time for **Noorda** to be discussing succession - when so much of what can be accomplished with **Unix** seems to depend on his personal touch.

A reputable type who got his information from **Bill Gates** says **Gates** told him months ago that **Microsoft Corp** had **Windows NT** running on **Sun Microsystems Inc's** **Sparc RISC** in the labs. Our source figures the exercise was in one respect a porting proof. Now it'll probably degenerate into a game of chicken between **Gates** and **Sun** chief **Scott McNealy**.

The thought has come up before but it may be worth revisiting. How much insurance is **SunSoft Inc** taking out with **Solaris-on-Intel**? Its existence means **Sun Microsystems Inc's** transition to **Pentium** will be a lot easier, so the thinking goes, if **Intel Corp** eventually trounces **Sparc**.

A source within **Hewlett-Packard UK** claimed that its first quarter **700 Series** workstation figures showed revenues up 120% over the same period last year.

Forrester Research Inc, **Cambridge, Massachusetts**, estimates the worldwide client-server software market will expand to \$28 billion in 1996 from \$2.5 billion last year.

Oracle7 and trusted **Oracle7**, the secure implementation, are now generally available on **Data General Corp, DEC, Fujitsu Ltd, Hewlett-Packard Co, IBM Corp, ICL plc, NCR Corp, Pyramid Technologies Inc, Sequent Computer Inc, Siemens Nixdorf Informationssysteme AG** and **Sun Microsystems Inc** machines.

Hewlett-Packard Co says its new **HP 9000 Series 800 Model H40** running **Informix 5.0** recorded 406.65 transactions per minute (tpmC) at a cost of ownership of \$2,786 per tpmC using the **Transaction Processing Performance Council's** latest **TPC-C** on-line transaction processing benchmark test suite.

DEC will have its **Alpha AXP** compiler for **Microsoft Corp Windows NT** ready by early **March**.

Locus Computing Corp is supplying its latest **PC-to-Unix** connectivity to **IBM Corp** for use under its **AIX Unix**.

X-Windows technology suppliers are bandying together as the **X Industry Association** to promote **X** at the behest of the **X Business Group**. The not-for-profit consortium members include **ADDS/NCR, Adobe Systems Inc, AGE Logic Inc, DEC, Grafpoint Inc, Hummingbird Communications Inc, ICS, IXI Ltd, Kinesix Inc, Network computing Devices Inc, Non Standard Logics, Omron Advanced Systems Inc, Shographics Inc, Tektronix Inc, TeleSoft Inc, Visual Edge Software Inc** and **Walker, Richer & Quinn**. +1 510 226 1075.

Carrera Computers Inc, **Laguna Hills, California**, is delivering a **Mips Technologies Inc R4000** motherboard for **PCs** running **Microsoft Corp's** **NT**: the **Cobra ARCSystem** is priced at \$5,000. +1 714 545 3117.

At last week's **Object World** in **Boston**, **Pure Software Inc** rolled out version 2 of its **Purify** run-time error detection tool for **C** and **C++** developers which includes a new linker and mail mode: it is priced at from \$4,000 on **Sun Sparc** systems. +1 408 524 3094.

Business Objects SA, a **French** software house that markets an object-oriented data access tool for end-users which bypasses **SQL**, will be launching itself onto the **UK** market next **Wednesday**.

Intel Corp's **P67** part - between **P6** and **P7** - is we hear, being positioned as a replacement for the ill-fated **80860 RISC (UX No 420)**. It won't be compatible with the **i860** - its lab number is pre-fixed with **P** as in **P5, P6**, rather than **N** as **i860** iterations were given. Sources say the **64-bit P67** is being developed in **Israel** and may run **iAPX-86** software via an emulator. "It would be nice if **Intel** put some stakes in the ground for software developers," one former **i860 ISV** commented, "otherwise they [**Intel**] will have the same problems as they had with the **i860**."

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SVR4 WINS A PLACE IN DEC's "UNIFIED UNIX" VISION

Open Software Foundation stalwart Digital Equipment Corp last week finally bowed to the inevitable, announcing it will make a Unix SVR4 personality generally available for its OSF/1 version 1.2 implementation on Alpha AXP machines from September (UX No 404). The company mounted a rear-guard defence of its three-pronged operating system strategy last week - OSF/1, NT and OpenVMS - but it had left a lot of substance on the cutting room floor before finally calling together top industry watchers in Maynard, Massachusetts, and around the world for the "Unified Unix" strategy briefing (UX No 386). Indeed, DEC president Bob Palmer, was missing from what should have been a showpiece event. Indicating that it can no longer afford to keep Unix SVR4 out of its price book, the Unix SVR4 personality comes out of DEC's Cal-Comp/Telecommunications labs which of course, has been quietly supplying SVR4 to the firm's telecomms customers for some time. An SVR4-on-Alpha plan has been in the works for as long as a year (UX No 386) and was made all the more likely when Ing C Olivetti & Co SpA announced it would implement SVR4 on the high-end Alpha AXP systems it is to market. DEC, which admits it has been locked in a "defensive position" over Unix, will sell version 1 of the personality as a layered add-on product to the 64-bit OSF/1 1.2. Version 1.1 due by the end of the year, will include system administration facilities lacking from the initial release. Support for symmetric multiprocessing and C2 security will be addressed in a "major new release of OSF/1" next year. DEC says it is currently evaluating several SMP technologies and will announce its choice by the end of the year. DEC says it has no plans to licence its SVR4 work to other OSF/1 probables like Hewlett-Packard Co and IBM Corp, fully expecting them to come up with their own solutions in this area. Customers of DEC's Berkeley System Distribution-based Ultrix Unix, which features on its doomed Mips Technologies Inc hardware line will be migrated up to Alpha and OSF/1 1.2. DEC reckons it can come closer to a unified Unix than any other supplier, and recently as last month freely admitted that its whole strategy is dependent on just such a gameplan (UX No 418). It believes it can quickly make up ground on other Unix suppliers. DEC claims 2,000 development sites for OSF/1 1.2 on Alpha, with 400 applications up and running with a further 1,000 committed. The firm, which also offers Santa Cruz Operation Inc Unix on its Intel Corp line, says it has no plans to join Unix International.

FRENCH START-UP HAS WINDOWS API FOR UNIX

French start-up Machine Independent Software, the cross-platform software development subsidiary of the \$25m-a-year Sun Microsystems Inc integrator Diva, has developed a portable implementation of the Microsoft Corp Windows application programming interface (API), that will let Windows applications run on Solaris, UnixWare, AIX, HP-UX, VMS and OSF/1 boxes after recompilation. The software is a new head-to-head competitor for the likes of Insignia Solutions Inc, Praxsys, now owned by SunSelect, and Bristol Technology Inc. Reportedly others are on the way. MainSoft, as the company styles itself, expects to begin delivering the product, known as MainWin 3.0, in the US next month. It says MainWin can run on any Posix-compliant/X Windows-based operating system and it intends to start with Solaris 1.0 and 2.1, AIX, UnixWare and HP-UX. With MainWin, the Windows applications will reportedly run in native mode with no intervening emulation level to bog down performance. In fact, the company claims that when running on a Unix workstation, MainWin's graphics performance (its Windows display, scrolls bars and menus) is the equivalent of Windows running on an Intel Corp 80486 box. Application developers however, need to maintain only a single version of their source code for all systems. Currently MainWin can handle only Windows 3.0 programs with 3.1 support expected in the second half. The programs must also be written in portable ANSI C. If so, developers only have to make slight modifications such as adding include lines and converting file names before compiling and running the application on the target system. With MainWin, the application will run in its native environment such as Open Look or Motif and have the Windows look-and-feel. The company says the software offers most of 600 Windows calls. It does not include segmented memory management calls that are not useful on 32-bit systems. MainSoft, which intends to branch off into development environments and generic tools in the next 12 months, started shipping product in Europe in December. It is opening an office in San Francisco to be run by its founder and president Jacques Quelene. It will strut its stuff at the Software Development conference in Santa Clara, California this month. Development kits will go for \$5,000 with run-time licenses separately priced.

NATIVE NETWORKWARE ON SPARC - NT TO FOLLOW?

Striking out for volume, Sun Microsystems Inc is to begin unbundling its machines so the channel can put other operating systems up on them. Sun's Chet Silvestri, vice president of technology sales, the man charged with making Sparc successful, has turned to native NetWare as the obvious first choice for new non-Unix business. Novell Inc has a claimed installed base of some 22 million nodes and will port NetWare to Sparc, with Sun providing device drivers and other hardware-specific code. The network operating system will be available on Sparcservers only to begin with - "the systems that users don't see," as one official put it - though workstation configurations are expected to follow. It's a non-trivial porting task and development kits aren't expected until year-end. Novell is holding off announcement of a general release date until later in the year. Sparc will be only the third architecture - after Intel Corp's iAPX-86 and Hewlett-Packard Co's PA-RISC - that Novell Inc will have native NetWare 4.0 on. The convenience of the deal is underlined by the fact that in the US, Sun shares 40% of Novell's platinum and gold reseller channel in any case. The move isn't expected to put SunSoft Inc's nose out of joint, the effort is parallel to SunSoft's unbundling of the Solaris operating system. However, as well as a means to drive volume sales, the deal is an obvious way for Sun to back into Microsoft Corp Windows NT. That NT is in the gameplan is not disputed by Sun, though Silvestri admits only to talks with Microsoft about the business parameters of such a venture - other flavours of Unix could even feature over time.

UNIX MERGER TALKS REVEALED AT NEW ORLEANS MEET

Contacts down in New Orleans at the Unix International annual members meeting, where reporters are barred, called in last week as we went to press to say that nothing substantive had happened yet that would move the industry further down the unity path. However, UI chief Peter Cunningham, speaking from the dais, alluded to discussions that were being held at the highest levels and suggested that they were very close to some sort of agreement. He apparently promised that attendees at next year's meeting would find themselves sitting next to representatives from DEC, HP, IBM and other Open Software Foundation partners. Observers took away the implication of a combination or merger between the two consortia. Reportedly OSF president David Tory, in attendance at the meeting, had yet to address the floor.

CDC TO SELL SPARCS, NEC UNIX KIT - SEEKING ACQUISITIONS

Control Data Systems Inc, Arden Hills, Minnesota, expects to begin reselling Sun Microsystems Inc kit on a country-by-country basis over the course of the year. The tie-up with Sun is part of CDC's plan to broaden the range of hardware platforms on which it can offer its software in its new role as an integration outfit rather than a hardware manufacturer. CDC markets Silicon Graphics Inc's Mips Technologies RISC-based boxes as its own 4000 InfoServers and 910 workstations and 920 servers - positioned as technical systems - and will take SGI's newest stuff as it arrives (UX No 421). CDC president, Jim Ousley, admits there may be some conflict through the channels. From the middle of the year CDC will also formalise an agreement to sell NEC Corp's Mips R4000-based 4800 workstations and UP4800 servers, which are to be announced next quarter. The year-old arrangement for CDC to sell NEC mainframes into the US and Europe hasn't worked out, but CDC says it is now working on NEC's massively parallel systems which are due next year and are said to be based around Hewlett-Packard Co's PA-RISC, although Ousley says the Japanese firm is "keeping its chip options open." CDC will continue to sell its own systems built around the now-defunct Mips R6000 ECL RISC RISC until the end of the year, but says plans for Gallium Arsenide Mips implementations have now been abandoned (UX No 388). CDC also resells IBM Corp RS/6000s in Denmark. CDC's EP/IX version of Unix is currently being melded into SGI's Irix implementation (UX No 421), a job that should be complete by the end of the year. CDC, a 3,000-employee outfit, is now divided between manufacturing systems and information management system units rather than along geographical lines. Ousley says business is now split 60%-40% in favour of open systems versus the maintenance and servicing of its 1,800-odd remaining Cyber mainframe sites, which it'll continue to support beyond the year 2000. By the end of this year, Ousley expects the split to be 80%-20% between open systems and proprietary revenues - Europe is now its biggest market. CDC finished its end of year with a net loss of \$134.0m after a \$129.8m restructuring charge associated with the spin-out from Ceridian Corp last year (UX No 387), although in the two quarters following the spinout it recorded net earnings of \$10.2m on revenues of \$266.6m. Revenues for the year were off 9.9% at \$517.0m. Ousley claims CDC has some \$130m in cash reserves and says it is now in the market for acquisitions in the channels and application areas.

PACIFIC SOFTWARE OFFERS PARAGRAM PARALLEL DEVELOPMENT ENVIRONMENT

Hardware is visible and sexy, so all the excitement in the parallel processing world is generated by manufacturers, but it will be the companies that crack the problems of writing new applications and adapting existing ones to exploit the technology that will be best placed to make their fortunes out of the technology. One such hopeful is Pacific Software Corp in Mountain View, California, which has just announced what it calls Paragram version 1.0, describing it as an innovative approach to parallel application development and program generation. Paragram is a software development tool designed to facilitate the modelling and development of parallel and distributed applications. Paragram is claimed to be able to generate an executable representation of the application when the application definition is complete. It offers a graphical user interface and uses a simplified data-flow diagramming technique to model the parallel interactions. Users can visualise the interaction of the various program elements intended to operate in parallel, and reconfigure parallel programs to obtain optimal performance. It supports both multiple- and single-instruction architectures and is currently available on Motorola Inc 88100 RISC-based 88open-compliant systems; a Sparc version is nearly ready. The company gave no prices.

DEC OBJECT MECHANISM ON AIX, HP-UX, MAC

Digital Equipment Corp's ACA Services 2.1 which is compatible with the Object Management Group's Common Object Request Broker Architecture mechanism is now available for AIX, HP-UX - \$5,000 each - Macintosh System 7 - \$300 - and DEC's own OpenVMS AXP - from \$4,000 to \$28,000. ACA Services 2.1 is part of DEC's NAS, its Network Application System environment, and can be used to integrate applications across distributed platforms, the company claims. ACA Services is already up on Ultrix, Windows and Sun Sparcstations.

X INDUSTRY BOOMING, SAY REPORTS

The X-Windows technology industry was worth \$820m in 1992, up 60% from the \$510m it turned over in 1991, according to a report by Fremont, California-based X Business Group. The \$820m figure includes revenue from sales of X terminals, personal computer X servers, graphical user interfaces and development tools. Revenue from sales of X terminals accounted for 62%, or \$499m, of the 1992 figure, a 39% increase on the previous year's sales. The fastest growing sector of the X market was graphical user interface development technology, including cross platform tools and interface development tools, which together accounted for more than \$81m. Revenue from sales of personal computer X server packages rose to \$33m, a growth of 217% over the 1991 figure. 184,000 PC X server licences were shipped, according to the group. X industry figures from International Data Corp, Framingham, Massachusetts, differ slightly from those of the X Business Group: IDC reckons sales of PC X server packages reached 189,000 last year - up from 67,000 in 1991 - with a value of \$50m. It says 194,000 X terminals - worth \$565m - were shipped last year, against 118,000 in 1991. Both the X Business Group and IDC say their findings illustrate the growing importance of X software, especially PC X servers, and say the X terminal price war is driving hardware revenues down. Eileen O'Brien, IDC's director of terminal services, says the surge in PC X server sales wasn't forecast to happen until 1994, attributing the rise to people who use X technology buying PCs and running X server software on them as a cheap alternative to X terminals and the improving quality of the software. PC-based X solutions are more popular in business than X terminals, she believes.

NETWORK COMPUTING DEVICES ADDS MULTIMEDIA WITH NEW X-STATIONS

You have to be pretty innovative to build an entire business from one product niche as Network Computing Devices Inc does with its X Window System display terminals, and the Mountain View company is demonstrating the kind of innovation that will be needed to keep it ahead of the pack. Last week it launched its first multimedia X terminals - units able to produce sound as well as text and graphics. The new Modular Color X terminal line is built around the 88100 RISC from Motorola Inc and is designed to bring to mid-cost products functions and performance once available only on high-end units, including PEX three-dimensional graphics and performance reaches 100,000 Xstones. The X terminals are the MCX14, a 14" with VGA or 1,024 by 768-pixel resolution at \$3,300; the 15" MCX15 with the same resolution at \$3,500; and the MCX17 17" unit with VGA, 1,024 by 768 or 1,152 by 900 resolution at \$4,300. The MCX1 is a \$2,300 base-only product that supports standard VGA and Super VGA multisync monitors, including high-resolution 1M-pixel monitors at up to 75MHz. All MCX units have 12" square base and offer "compact disk-quality 16-bit sound" with sampling rates up to 50KHz. Input devices range from microphones that go into the external jack to compact disk players; output can be through the internal speaker, or via stereo speakers or headphones plugged into the speaker jack.

APPLE, IBM AND NOVELL TEAM ON RIVAL OLE SPEC

Apple Computer Inc, IBM Corp and Novell Inc are reported to have joined forces on development of an alternative to the Microsoft Corp object passing, Object Linking and Embedding 2.0 specification. First application programming interfaces are due in the third quarter. The effort is fuelled by concerns that Microsoft hasn't provided extensions that'll embrace other environments, including Unix, OS/2 and Macintosh. Microsoft says it will provide Mac hooks by year end, although there are no plans for Unix or OS/2 links. The Apple/IBM/Novell tie-up will result in Object Management Group-compliant technology drawn from existing internal projects. The first APIs will include Apple's OLE-like Bento, Novell NetWare object extensions and technology from the Apple/IBM multimedia alliance, Kaleida Inc.

ICL WINS HUNGARIAN ORDER

ICL Plc has won a \$3m contract, from the Hungarian National Bank. The company expects to increase its staff to 45 from 33 by mid-1993, and is buying additional floorspace at its offices in Deak Ter, Budapest. It will supply the Bank with a dual configuration Series 39/DX mainframe, DRS/6000 midrange Unix boxes and 1,000 terminals. The Bank will be the first to use ICL's Hungarian language version of Officepower, but will also acquire a mixture of general banking applications.

PYRAMID READIES VALANCE ORACLE PARALLEL DATABASE SERVER

Pyramid Technology Corp is preparing to release the fruits of its work with Oracle Corp on the Parallel Database Server under the code name Valance. The project, which may be the subject of announcements around the UniForum trade show next month, is among a number of similar joint developments Oracle has been working on in conjunction with symmetrical multi-processor (SMP) hardware suppliers, including Pyramid rivals Sequent Computer Systems Inc and NCR Corp (UX No 325). The lack of scalable database technology has so far kept the SMP vendors to a ceiling of around 20 processors for commercial users before performance benefits tail off. Sequent offers up to 32 processors on its Symmetry line, but the largest systems have gone to scientific users. Pyramid offers 24 processors, but chose the 20 processor limit to run its Oracle 7 benchmarking figures, released last year (UX No 407). Pyramid will be upgrading the processor technology in its ES range to MIPS R4000s "some time this year", also adding faster bus technology and fault-tolerant features. European business development director Peter Scott denied rumours that Pyramid - like its OEM customer Olivetti - had been looking at DEC's Alpha chip for future developments, but pointed out that much of Pyramid's SMP technology could be ported to other platforms: it has already licenced its bus and systems software to ICL and Siemens-Nixdorf, and says that further deals will follow.

VENDORS TEAM ON INSTALL SPECS

Word has it that an unlikely combination of forces have come together in a bid to establish a new standard for installing Unix software from graphical user interfaces and will be showing their stuff next month's Uniform show in San Francisco. Partners in the effort are thought to include at least Hewlett-Packard Co, IXI Ltd, Santa Cruz Operation Inc and Sun Microsystems Inc with IBM Corp said to be "considering its position." The standard will reportedly provide a standard set of techniques for independent software vendors to write to and should allow users to get Unix applications up and running from an install icon within a variety of graphical environments without the need to go back down to the shell, be they native or guest implementations. Some of the stuff in the specification will be new, some is already in use.

HP SEEING PINK FUTURE?

Sources say, as we suspected at the time, that any suggestion that Hewlett-Packard Co might be interested in licensing Next Computer Inc's NextStep interface for the PA-RISC is a lot of executive hot air (UX No 418). HP is known to have been casing the industry for new directions - a process witnessed by the winding down of its New Wave interface efforts - and is now thought to be closing in for a piece of Taligent Inc (UX No 417), the Apple Computer Inc/IBM Corp joint venture on object-oriented operating system technology. HP has been very quiet about its ballyhooed tie-up with Sun Microsystems Inc on the Distributed Object Management Framework, or DOMF.

COMPAQ GETS INSIDE TRACK ON POLISH GOVERNMENT

Compaq Computer Corp is in a unique position to secure government contracts in Poland, after signing a 'preferred supplier' deal with the Polish Council of Ministers office. The arrangement sprang out of Compaq winning a contract to supply hardware, which was used to manage the 1991 national elections. Negotiations for the deal took more than 14 months. While market research in Poland is scarce, International Data Corp estimates that the total information technology market there is worth approximately \$200m a year. As 30% of this is generated from the public sector, Compaq has, at a stroke, become the front-runner for contracts worth tens of million dollars each year, especially given the local preference for Unix server-backed personal computer networks.

DEC'S ALPHA KIT FALLS FOUL OF LINGERING COCOM RESTRICTIONS

Digital Equipment Corp is having problems getting its Alpha 3000/500 RISC machines into Poland because export licences are still required for high-performance RISC technology under CoCom regulations: but as there are not any fully-working Polish language applications, there aren't many takers in the country anyway. The CoCom regulations apply to all former East Bloc countries except Hungary, and are likely to prove a major thorn in DEC's side. East Europeans are also highly sensitive about being fobbed off with out-of-date stock - a remnant of planned economy days.

NEXT SHUTS WORKSTATION BUSINESS - CANON MAY BUY IT

Gossip that Next Computer Inc might abandon its hardware business to focus on its NextStep object-oriented operating environment (UX No 419) has proved all too valid and last week the company confirmed that it is to abandon manufacture of its workstations. The new software company will concentrate on the NextStep-on-Intel environment, but also plans to develop a range of surrounding software. These include development tools, reusable objects for developers and special object-enabled applications that tightly integrate with NextStep, such as electronic mail. Next has ceased all hardware production, fulfilling customer orders only until May 25th, when NextStep on Intel becomes available. Existing hardware support and service agreements will be honoured, it says. More than 280 jobs were cut from the current workforce of 530 - 100 will be relocated to major investor Canon Inc, which holds a 17.9% stake in the firm. Canon has reportedly already expressed an interest in buying the hardware business, but says it won't make any decisions until the end of May. In any case, Next will sell its hardware design centre and factory in Fremont, California. In Europe, Next will shut down 16 of its 21 subsidiaries, concentrating on the UK and Germany. "This is a very painful move for us, but we don't want to wake up a year from now and wish we hadn't done it," Next founder Steve Jobs told **United Press International**. "We've got a real head start on the rest of the industry," with NextStep, Jobs said, noting that its only real competitors for top-line operating system software will be Microsoft Corp with its forthcoming Cairo, and the Taligent Inc alliance between Apple Computer Inc and IBM Corp. Jobs himself still holds 46% of Next and has invested a reported \$200m in the company. Next shipped 69,300 workstations last year, compared with 217,000 shipped by Sun Microsystems Inc, according to International Data Corp's estimates.

INTEL ORDERS FIRMS TO HOLD PENTIUM BOXES UNTIL MAY...

Intel Corp has confirmed a report in the *San Francisco Chronicle* that it will delay introduction of its Pentium microprocessor until May, but denies the paper's assertion that it is holding the chip back to exploit demand for existing 80486 products. Intel says that it will describe the chip in detail on March 22, and announce limited shipments to customers, but will not put a price on it until after May 20. It says the move is to prevent demand building up for announced machines that vendors cannot ship because of shortage of parts. The letter to manufacturers estimates that personal computers based on Pentium will list for \$5,000 for desktop models and \$7,000 for mid-range systems. It also asks customers to refrain from talking to the press about Pentium-based machines or product prices until May 20 and warns that it might cut off supplies of the new chip to transgressors.

...AS SIEMENS REVEALS MULTI-PENTIUM BOX

Siemens Nixdorf Informationssysteme AG, is developing a multiprocessing personal computer that'll start life with up to four Intel Corp Pentiums, running Microsoft Corp's Windows NT operating system. Due in the second quarter of next year, the machine, originally code-named the A20, could eventually go up to 20 CPU. SNI says the box is aimed at the very high-end of the PC market where low-end Unix RISC technology is positioned. SNI will differentiate its lines by offering Windows NT on its PCs and Sinix Unix on RM RISC workstations, according to Claus Hommer, director of business planning at SNI's PC Business Unit. As reported (UX No 411), Corollary Inc, Irvine, California, will provide its C-bus II multiprocessor bus architecture and Symmetric Integrated Multiprocessor Logic chipset for SNI's multiprocessor.

...READIES NEW TP MONITOR RELEASE

Siemens Nixdorf Informationssysteme AG is readying version 2.2 of its UTM Unix transaction processing monitor for release in the second quarter. The little-heard-of TP monitor allows Oracle Corp and Informix Corp database packages to run as hardware-independent applications in client/server mode, according to SNI. Originally developed for the company's BS2000 IBM-compatible mainframes, UTM is now being ported to Silicon Graphics Inc's Indigo Unix system range and is already available on IBM Corp's RS/6000 and Hewlett-Packard Co's HP9000 machines. SNI says it has no plans to licence the product to other vendors, though UTM will interoperate with other TP monitors supporting OSI/TP protocols.

NT IS "GREAT WHITE HOPE FOR DEC"

Jesse Lipcon, father of the microVAX and the DECie now charged with running DEC's NT interests, characterizes NT as the "Great White Hope" around DEC. "A lot, if not most of [DEC's] growth long-term will come from NT," he says, and it will drive DEC's resurgence. The fact that DEC plucked him out of its largest and most profitable systems businesses and split that down the middle so he could run the NT operation is proof that DEC expects significant results out of NT. Lipcon understands long-term as being two or three years which is what he figures it took the Mac to amass the necessary apps and catch on. Overly euphoric notions inside the company that it's going to move a million units in the next year "ain't gonna happen," he said. One of the attractions for DEC of course is the thought of volumes without the usual investment. With Microsoft in the deal, DEC doesn't have to do everything itself. Lipcon claims what's enticing users to NT is the notion of having one environment from the desktop up through the datacentre. Lipcon figures DEC will have this desktop-to-datacentre panoply by first quarter of 1994 as long as it's only uniprocessors. SMP machines will take until the fourth quarter. NT, he says, is particularly attractive to the banking and insurance industries. It is also making Unix zealots lose their religion. CERN, for instance, is ready to swing over to NT and abandon its Unix boxes because the administration side there is awash with incompatible PCs and Macs and if the techies give up their Unix stations then everybody will be on the same system. Sequoia 2000, the consortium of the US universities led by the University of California at Berkeley and the cultural successor to the Athena project, might as well be described as the Vatican of Unix, he says. It's in the process of shifting over to NT because it's a better base, he said, for its massive global database. It admits however that Berkeley isn't exactly running its payroll on it. Nonetheless Lipcon claims NT is a better quality operating system than Unix. A clean design versus an evolved hodge-podge that in "no way is ever going to be unified." The first task is to get the applications for NT-on-Alpha. DEC is out trying to entice the top 100 personal computer applications over as well as VMS, OSF and Sun programs, maybe 1,000 vendors in all. It has to prove, for instance, that the task is a simple recompile.

SUN TAKES BRISTOL FAX SYSTEM

Sun Microsystems Inc is licensing and deploying internally The Bristol Group's Open Look/Sparc-based network fax system IsoFax and its new companion workgroup information manager PowerBase. The Larkspur, California firm's PowerBase/Workgroup is a client/server package for network users to schedule activities. It streamlines the use of phone, fax, e-mail, post and express mail and provides IsoFax with a shareable fax address book. PowerBase, which also come with a Motif interface and is also available on HP and IBM systems will sell for \$400 for a single client licence, \$2,500 for six and \$1,000 for a server. Bristol: +1 415 925 9250

USERS ONLY HAVE TO RE-CODE FOR PROGRESS 7 GRAPHICS ENHANCEMENTS - OBJECT LINK EXPECTED IN JUNE

Progress Software Corp claims version 7 of its database and toolset, expected in the third quarter, will be compatible with version 6 (UX No 420). However, applications running on version 6 - a character-based environment - will have to be re-coded to take advantage of a graphical interface and other enhanced features contained in version 7. Meanwhile, Burlington, Massachusetts-based Object Design Inc will ship the Object Access software it has been developing for Progress 4GL in June. Open Access - development of which has been part-funded by Progress - provides a link between Object Design's ObjectStore database and Progress' development environment and 4GL. Ian Schmidt, Object Design's product marketing director, says the software will be sold jointly by the companies. Progress does not have a financial stake in Object Design as reported (UX No 420) - confusion seems to have arisen over a plan under which Progress may take over all rights to Object Access.

OSF LOSES SEVEN IN RE-SHUFFLE

Seven jobs have gone at the Open Software Foundation as a result of a realignment which sees the consortium effectively become a two-headed beast - one turned on the operating system, the other with eyes on interoperability technologies, which includes everything else. The former technology-specific units and business area management divisions have been collapsed into single structures around the various technologies. OSF has some 300 staff including a number of sabbatical positions at its research institutes.

IBM DENIAL OF 15,000

NEW JOB CUTS CONVINCES FEW

The consensus among observers has been that IBM Corp will find it needs to cut many more than the 25,000 positions it is targeting for this year, so there was little surprise when both the *New York Times* and the *Wall Street Journal* last week came out with independent stories saying the cuts would go much higher. The surprise came when IBM immediately leaped up to deny the reports. "The expectation we're working towards at this point is 25,000," a spokesman told *Reuter*: "We've not revised that." The Times said that the company planned to raise total number of lay-offs to 40,000 and the Journal said that IBM's North American sales unit would increase lay-offs to 7,000 people from the previous target of 4,000 to 6,000. The company said it had never confirmed the lower figure. The original trigger for the stories was a note sent to clients by Merrill Lynch & Co analyst Daniel Mandresh, in which he said he believed that IBM plans to cut as many as 40,000 jobs this year, which would require yet another charge of about \$1,000m to make up the provisions short-fall. The Journal hears that an announcement on the sales force will be made internally this Monday and will not be made public.

DESKTOPS TAKE LIONSHARE OF IBM'S EUROPEAN UNIX BUSINESS

IBM Corp says revenues from European sales of its RS/6000 machines rose by 28% during 1992, accounting for some 43% - \$1,000m - of its worldwide Unix market. North American sales accounted for 40% of the worldwide market. Japan and Asia Pacific, which provided 13% of revenues, is the fastest growing Unix market according to IBM. In Europe, German RS/6000 business generated some \$280m, France accounted for \$160m and the UK \$150m. IBM's desktop RS/6000s clocked up \$470m of the \$1,000m, other workstations \$360m, with deskside machines taking \$160m and rack-mounts \$1m. 36% of sales were direct, 34% came through value-added resellers and 30% from other IBM agents: the company projects 1993 figures at 40%, 30% and 30% through these channels respectively.

TAIWANESE GOVERNMENT BODY TAKES HP SOFTBENCH

Taiwan's government-run research arm, the Institute for Information Industry (3I) has licensed SoftBench, Hewlett-Packard Co's CASE integration framework. The pact gives SoftBench its first foothold in the Far East. 3I made the selection in preference to Sun's ToolTalk and DEC's Fuse. 3I will use the Framework and SoftBench Encapsulator to build an integrated environment for CASE tools which it and local ISVs develop. 3I also expects to be a contributing member of CASE Communique, the effort among suppliers and end users to establish standard specifications for intertool communication in framework environments. The SoftBench environment has already been licensed by IBM, Informix, CDC, Objectivity and Siemens Nixdorf.

X/OPEN RESTRUCTURES TO CUT COSTS

Following the introduction of new membership tiers and the resulting need to reign in spending following the loss of several board members (UX No 418, 405) - X/Open Co Ltd has restructured its organisation into several distinct business units in an attempt to cut costs. Branding is headed up by Graham Bird; publications is under the charge of Philip Holmes; user membership is managed by George Schaffner; testing is controlled by James de Raeve while Mike Lambert heads up specifications and technical membership. There is a separate sales team, managed by Bob Lewin: chief marketing manager, Alan Davies, has left the organisation. Each unit is a self-contained cost centre and has a list of deliverables and goals it must achieve.

SCO BOSS COVETS CORPORATE AMERICA

A few weeks on the job and the Santa Cruz Operation Inc's new boss Lars Turndal is talking about trying to figure out a way to change the company's "old-fashioned distribution model" without rocking the boat. The task is not easy. He's also talking about adjusting the company's prices upwards because it's silly to change the same thing for one or hundred users. He wants to upgrade the company's image to go after corporate America and the multinationals. He realizes he may have to change the company's culture to do it. He's also determined to acquire systems software technology like utilities from the outside. SCO has yet to pick an investment banker to take it public.

"KEEP MOTIF OPEN" INITIATIVE UNDERWAY

A group of OSF/Motif suppliers are embarking on a process to keep the graphical user interface "open" and allay end-user fears that it could one day be hijacked by an unscrupulous vendor and turned into a proprietary superset of interface characteristics. The initiative - apparently blessed, but not lead, by the Open Software Foundation - includes Hewlett-Packard Co, IXI Ltd and Santa Cruz Operation Inc at present. The three reportedly plan to work towards a strong, open Motif, with guaranteed interoperability between different implementations via code-sharing and cooperative bug-fixing arrangements. In the first instance, IXI has taken HP's drag and drop operation specifications and will incorporate them in its Motif 1.2 and X.desktop products. The net result will find HP and IXI Motif environments agreeing about how files and other structures are read and manipulated when applications are dropped upon one another. IXI has also established a Motif code-sharing partnership with Santa Cruz Operation Inc. IXI believes other hardware vendors could be drawn into the initiative as many spend up to a million dollars maintaining their separate Motif developments. There are few economies of scale as much of the work is duplicated. IXI says the initiative will also encourage users to move up to the latest 1.2 release of Motif - many are sticking with version 1.1 for the foreseeable future, unconvinced of the robustness of the new environment (UX No 394).

...FOUNDATION EMPLOYS ICS ON NEW MOTIF

The Open Software Foundation has tapped Cambridge, Massachusetts-based Integrated Computer Solutions Inc to help it develop the next version of Motif. ICS says it will work on the design, specification, implementation and testing of the Workspace Manager technology for Motif. It lets users make better use of the desktop, enabling them to group windows that work together into separate individual workspaces. ICS will provide additional Motif Toolkit enhancements such as flexible colour use, toggle button changes to improve visuals and capabilities to increase Motif convergence with PC styles. Meanwhile, ICS announced the availability of Motif 1.2.1, the latest release, on Solaris 1 and 2.1 at a single-user price of \$525. It also has an Adobe Display Postscript system for Sparcstations at \$550 for a single user. ICS will bundle the X11R5 server with the DPS extensions, the entire X11R5 pre-built core distribution and Adobe Showpage, a Postscript file previewer.

URNS TO DEC, IBM, LOTUS FOR NEW WIDGETS

As expected (UX No 422), the Open Software Foundation has picked up new widget technology from Lotus Development Corp, IBM Corp and Digital Equipment Corp to enhance its Motif graphical user interface. OSF says the new widgets will offer extended PC-style capabilities, internationalised text editing and desktop emulation enhancements. They'll go into the next release of Motif. The PC-style container and notebook widgets come from IBM. They allow desktop objects to be collected at a single point and emulate a paper notebook, displaying pages on the screen. Lotus' combo box widget combines a drop-down list and a type-in text field, enabling developers to use off-the-shelf widgets instead of creating the same combination each time. From DEC's multi-colour, multi-font text widget, users can additionally edit text from right to left.

LEGENT TAKES A CHUNK OF TIVOLI

Vienna, Virginia-based Legent Corp has taken an undisclosed equity stake in object software developer Tivoli Systems Inc. It has also licensed Tivoli's Management Framework technology and says it will participate in future joint technology ventures. Legent's "substantial capital contribution" buys it a block of shares and a seat on the Austin, Texas-based company's board. Legent will integrate Tivoli's object software with Endeavor, its systems management package, in order to accelerate Open Software Foundation Distributed Computing and Management Environment-compliance for the stuff. Tivoli's Management Framework is a core component of OSF's DME architecture. Endeavor will be DCE-compliant by mid-year and DME conformant by year end. Legent says future joint technology ventures will include the development of migration and integration paths between proprietary mainframe and object-based open systems applications. Meanwhile, Legent and Hewlett-Packard Co have announced a cooperative marketing and joint development agreement to port Endeavor to HP-UX and integrate the software with with HP's SoftBench CASE development environment.

MVS AND CICS/6000 APPS WILL RUN UNDER NEW TUXEDO SYSTEM

As expected (UX No 422), Unix System Labs Inc will today announce a new release of its Tuxedo transaction processing system, to which USL has added further extensions for interoperability and distributed computing. Tuxedo now includes an X/Open Co Ltd-compliant transaction processing application programming interface (API), XATMI, a Cobol migration API, an enhanced message queuing system and dynamic link libraries. The XATMI interface provides multi-platform communication links between applications and transactions running under different transaction processing environments. The Cobol migration API recompiles IBM Corp Cobol-based MVS and CICS/6000 applications so that they can run on Tuxedo-based systems. CICS/6000 is an implementation of the IBM's traditional transaction processing environment overlaid on Transarc Corp's Encina TP monitor. The message queuing subsystem, /Q, allows Tuxedo to perform long running, time-delayed and event-driven transactions by writing messages to disk. Once the message is written to disk, completion of the request is guaranteed in case of system failure, USL claims. Dynamic Link Libraries provide desktop client access to Tuxedo from Microsoft Corp Windows and OS/2 environments. USL will release further interoperability extensions later this year including IBM IMS connectivity and transaction coordination with CICS/6000 using IBM's LU6.2 protocol and terminal emulation software, which allows mainframe applications to access Tuxedo without code changes.

SLIGOS TO SELL TUXEDO ON IBM, INTEL

Meanwhile, Sligos SA, France's second largest software and systems integration house, announced it has signed an agreement with Unix System Laboratories to distribute the Tuxedo transaction processing monitor for IBM Corp RS/6000 and Intel Corp iAPX-86-based machines. The accord will enable Sligos "to integrate one of the most high-performance transaction monitors into its Unix offering," the Paris company said.

USL RELEASES EUROPEAN LANGUAGE SVR4.2 EXTENSIONS

Unix System Labs says the European Language Supplement (ELS), which localizes keyboard input, screen output, date, time and monetary conventions, is available for SVR4.2, the first step towards full localization. The product is being released in two phases. Version 1, available now, supports all Western Europe and countries where standard English is required. Version 2, due in the second quarter, provides additional locales and Postscript Type 1 fonts including Cyrillic and Greek for Eastern Europe. The European language user interfaces USL is developing are due in the second quarter. They will take users from installation to run-time.

PC-NFS FOR WINDOWS NT

As expected (UX No 422), Microsoft Corp is granting Windows NT and Windows for Workgroups users access to Unix networks via support for SunSelect's PC-NFS software. SunSelect, the Sun Microsystems Inc PC-to-Unix connectivity satellite, is developing a version of PC-NFS tuned for Windows NT that will ship in the third quarter. Windows for Workgroup drivers will be delivered as part of a forthcoming PC-NFS release, said to be "imminent," by which time Microsoft is expected to have released an updated version of Workgroup for Windows with a patch for PC-NFS support. PC-NFS is an implementation of Sun Microsystems Inc's widely used Network File System mechanism which operates over Transmission Control Protocol/Internet Protocol technologies and allows personal computers to access resources on Unix systems.

TIVOLI SIGNS ELEVEN SUPPORTERS

Tivoli Systems Inc has signed agreements with eleven companies which will integrate, support and provide consulting services for its object-based systems management software. The eleven include AIM Technology Inc, Demax Software Inc, Legato Systems Inc, Landmark Systems Corp, Los Altos Technologies Inc, Metrix Network Systems Inc, BIM, Scopus Technology Inc, Sybase Inc and Parantec Inc.

MARKET ROUNDUP

New York-based, **Parallex Graphics Inc** has introduced XVideo for **Insoft Inc's** Communique software conferencing system: XVideo, a real-time full-motion colour system, which allows users to operate in workgroup conferencing situations. +1 408 737 2220

Santa Clara, California-based **NeXT Computer Inc** is the latest to beat a path to the door of **Auspex Systems Inc** and will resell Auspex NFS servers under a joint marketing agreement.

Irvine, California-based, **Rainbow Technologies Inc** has launched MicroSentinel/UX, an execution control device that allows developers to control the distribution and access to their software programmes without interfering with the application. Incorporating an 8-bit Motorola Inc microprocessor, MicroSentinel/UX is compatible, the company claims, with Sun Sparcstations, DECstations, Silicon Graphics Inc's workstations and IBM's RS/6000.

Sequent Computer Systems Inc is to market Software AG's Adabas database management system and Natural fourth generation development environment on its Symmetry 2000 Unix machines.

Raxco Software Inc has released a client/server version of its Security Toolkit/Unix software: STK 2.0 monitors and maintains a database of file attributes and security data: it costs from \$600 to \$12,000 for Unix workstations - a VMS edition will follow.

Sweden's multinational **Kockums Computer Systems AB** has picked Objectivity/DB as the object database for the next generation of SteerBear, its maritime CAD/CAM system. Objectivity/DB will be used to manage the design and manufacturing information generated by SteerBear and to provide high-performance concurrency for design groups.

The **Seybold Group's** next Marathon Week will be held at the Copley Marriott in Boston April 18 through 23. Participants cross over and join three simultaneous symposia on distributed object computing, open systems and a forum designing a real solution for implementing open distributed systems.

Mass storage and disk drive manufacturer **Iomega Corp**, Roy, Utah, is to distribute TransferPro, a file exchange software program from **Digital Instrumentation Technology Inc**, Los Alamos, New Mexico: TransferPro allows non-network users to transfer files between workstations, personal computers and Apple Macintoshes - prices start at \$350 on Sun Microsystems Inc and Silicon Graphics Inc workstations.

San Diego-based **Zzyzx Workstation Peripherals Inc** has 16Mb memory upgrades for Sparcstation 10s for \$900 apiece.

Marlborough, Massachusetts-based, **Stratus Computer Systems Inc** says its XA/R fault tolerant processing systems now support **Financial Data Systems Inc's** financial trading software, Caesar. Running under Stratus' FTX implementation of Unix, Caesar is available through FDS and Stratus sales outlets. +1 508 460 295, FDS +1 619 558 7100

NCR Corp has released StarPro, a distributed computing electronic mail and messaging system. Three products are available: MessageCentral400, a mail box and internet gateway; OSI/TCP, a network connectivity package; and Open Connect400, a gateway to dissimilar LAN E-mail networks. StarPro supports Motif and Windows.

Somerset, New Jersey-based, **Programmed Logic Corp** has released a transparent file compression package for the **Intel Corp** iAPX-86-based Unix personal computer market: the Desktop File System is a plug-and-play file system which compresses data before storing it on disk, doubling the disk capacity of laptops, desktops, and notebook computers running a Unix operating system, the company says. Prices start at \$250. +1 908 302 0090

The **Object Management Group** has published a reference model on object software design and analysis: it incorporates a survey on comparative object-based tools available on the market, as well as outlining guidelines for object software development. +1 508 820 4300. OMG has also added three new members to its board: **British Telecommunications plc**, **Lotus Development Corp** and **General Dynamics Inc** - OMG membership now totals 280.

San Antonio-based, **Star Technologies Inc** has added enhancements to its Graphicon 20900/STX image system for the air simulation market. New functionality includes terrain and generic fill imaging - which creates images with land and air perspective capabilities, calligraphic lights and landing lights, 3D ocean and database paging. Available now - no prices were given. +1 919 361 3800

Toronto, Canada-based, **Dynatek Automation Systems Inc** has introduced XRAID, a cross platform RAID technology system. It provides transparent connectivity to any host and software platform via SCSI to SCSI connection. It supports SCSI-1 or SCSI-2 host connection and RAID array ranges from 2Gb to 16Gb. Scheduled for release the first quarter 1993 XRAID is priced at \$33,000. +1 416 636 3000

Process Software Corp, Framingham, Massachusetts, is to port its TCPware networking software to DEC's OpenVMS running on Alpha AXP platforms. +1 508 879 6994.

Princeton, New Jersey-based **Dataram Corp** is offering new memory boards for Sun Sparcserver 670 and 690 users: 690 versions with 256Mb, 512Mb and 1Gb memory are priced at \$20,700, \$45,100 and \$83,000 respectively. +1 609 799 0071.

Unisys Corp is porting its Mapper fourth generation language tool, which supports a range of databases, to IBM RS/6000, Sun Sparc and SCO Unix-based platforms: Unisys claims 5,000 users of Mapper worldwide on its mainframe and Unix platforms.

nCube Corp has set up a distribution subsidiary - **SSI-nCube Proprietary Ltd**, Milton, Queensland - to service the Australian, New Zealand and South Pacific markets. nCube's Taiwanese distributor, **Hermes Epitek Corp**, Hsin-Chu City, has sold seven nCube massively parallel systems in Taiwan and will begin sales in Singapore and Malaysia too. **TechTrend Engineering**, Hong Kong, is to distribute nCube systems in China and the British colony. nCube, Foster City, California, has appointed Leonard Eschweiler as vice president of federal operations. SSI-nCube: +11 617 368 3166.

Fujitsu Ltd's Unix commercialisation group in Australia has developed a prototype performance monitoring system called Open Eyes which can support networks of integrated Unix systems from the personal computer level to the mainframe.

San Diego, California-based, **Telesoft Inc's** TeleGen2 - a real-time Ada development system - has been selected to supply Ada across development tools for the Strategic Defense Initiative's Integrated Systems Test Capability Programme (ISTC).

Management Information Technology Inc, Long Beach, California, has released SQL*C++, software building object-oriented interfaces to relational databases: prices for Unix platforms start at \$1,800.

Interleaf Inc, Waltham, Massachusetts, says it has a new object-oriented document management package called RDM, for Unix, personal computers and Apple Macs which supports SQL and SGML.

UniSQL Inc has joined MIT's **AthenaMuse Software Consortium**, a sponsored research group seeking to produce next-generation multimedia authoring software for distributed network computing. UniSQL's unified relational object-oriented DBMS UniSQL/X, which manages multimedia data and device support, has been used by MIT for the last year as an enabling technology.

Waterloo, Canada-based, **Maple Software Inc** has introduced version 2.0 of its Maple symbolic computation package: the software, co-developed with **Mathsoft Inc**, Cambridge, Massachusetts, features 700 new mathematical functions, animation and graphics, Motif interface and help browser. Maple 2.0 is priced at \$800. +1 519 747 2373

IBM Corp subsidiary **Cadam** is forsaking its Blue-only bailiwick and porting its CAD Micro Cadam software to Sparcstations, planning to ship in December.

Westborough, Massachusetts-based, **Applix Inc** has appointed Craig Cervo as vice president of research and development and Patrick Scannell as vice president of finance and administration.

MARKET ROUNDUP

DB/Expo '93, the fifth in a row, is slated for San Francisco's Moscone Center, May 3-7. Bill Gates, Philippe Kahn, Steve Jobs, Larry Ellison, Sybase's Bob Epstein and Apple's Morris Taradalsky are all coming to speak.

UK firm **IXI Ltd**, Cambridge has versions of OSF/Motif and its X.desktop manager for **SunSoft Inc's** Solaris 2.1 operating system: a Motif developers pack is \$600, X.desktop starts at \$800.

Dun & Bradstreet Software is bundling an embedded **Micro Focus plc** Cobol compiler with every copy of its Open Millennium financial software on Data General, HP and ICL Unix platforms.

Data General Corp is expected to reveal the addition of a standalone 20Gb tape array system to its Clariion series of storage subsystems on March 17th (UX No 403).

At \$5,550, **IBM Corp's** new 16" colour Xstation 150 seems pricey, but then it's built around the **Motorola Inc** 88110 which has only recently gone into volume production (UX No 422): thought to clock at 40Mhz IBM says the 150 outperforms its existing Xstation 130 by a factor of six at 115,000 Xstones, and comes with from 6Mb to 22Mb RAM.

DEC has announced a rack-mounted version of the 160MHz DEC AXP 4000 distributed or department system launched at its bet-the-company Alpha RISC blitz back in November (UX No 411): the one or two processor Futurebus+-based Model 610 is rated at 132 SPECmark89 as a uniprocessor and comes with up to 512Mb memory - 2Gb by year-end.

IBM Corp is to market Canadian firm **Hummingbird Communications Ltd's** HCL Exceed/w personal computer X-Windows server for **Microsoft Corp's** Windows on its systems worldwide: meanwhile, Surrey, Woking-based **Wick Hill IMX Ltd** is to resell HC's PC X server software in the UK.

Unix International has distributed close to 4,000 copies of its highly critical stop-Microsoft "NT versus Unix" white paper since its publication in December (UX No 413). UI says its member companies are now circulating the document among users estimating they have about half the copies in print. UI reckons it'll have 20,000 to 30,000 copies in circulation by summer.

We hear **Sun Microsystems Inc** will be raising prices on all its old boxes 20% to 30% in mid-March. Sun apparently wants to move its base to Sparcstation 10s and Tsunamis and the price hike threat should help clear out inventory. The move must mean its confident it can produce the 10s it needs.

Computer Reseller News last week elevated to front-page news that little tid-bit we gave you weeks ago about **Microsoft Corp** and **Novell Inc** having kick the idea of merger around (UX No 409). CRN says last February Microsoft offered \$85 a share. Novell was then selling in the low \$60s. The story, which traces some of the bad feelings Novell harbours towards Microsoft to the spoiled deal, says Novell got skittish after it shared inside information with Microsoft and then found it was secretly negotiating to take over Fox Software.

Those 64-bit Rios 2 multi-chips **IBM Corp** is planning on using in boxes due by the end of the year from its new Power Parallel Systems unit (UX No 422) reportedly incorporate more instruction-set parallelism than Rios 1 does, will do eight operations per instruction cycle, will have a larger cache and additional buses.

Alphatronix Inc, the optical storage people, has set up **Alphatronix UK Ltd** in Birmingham.

Sparc add-on house **Integrrix Inc** has a new LSI Logic-based 50MHz/35.6 MIPS/5.3 MFLOPS Sparc 2 clone, the SS2+ Basic System for \$3,000. The company says the box provides significant improvement in both integer and floating point performance over the Sparcstation 2 and Sun's new Classic and LX models. It runs either Solaris 1.x or 2.x. It includes three SBus expansion slots, integrated Ethernet and SCSI disk controllers.

Unix International last week described **SunSoft Inc** as the first reference technology supplier to be chosen under its new expanded technology selection process (UX No 422). SunSoft will be kicking in with its ONC+. It's hard to imagine UI going elsewhere for the stuff.

Last week **Novell Inc**, **Unix System Labs** and **AT&T** were reportedly circulating the definitive USL merger agreement amongst themselves for review and signature. We heard last Thursday some people had already signed.

SunSoft Inc president Ed Zander sounded very pragmatic at the **Unix International** members meeting last week. Basically he said that although Sun and SunSoft are committed to Unix and Sparc if the ground shifts under them and the market moves to different hardware or software they'll make the business decision to cut bait.

Sources say some of **Sun Microsystems Inc's** top accounts have been bemoaning the company's lack of direct support for the OSF/Motif graphical user interface. It is understood that most of the Sun's employees, including vice presidents, have come round to the idea of embracing Motif in some shape or form, but there remains one unswerving voice.

XWorld '93 is set for March 8-11 at the Marriott Marquis hotel in New York City. It expects to attract 2,000 attendees.

Data General Corp will be getting 88000-based desktop workstations OEM from **Omron Corporation** starting sometime this spring after it signs a contract. Omron, which acquired DG's Japanese subsidiary, will be supplying its Luna boxes, hoping the deal will reduce its costs. Omron sold 6,000 Lunas in FY91 and is looking for other OEMs. DG supplies Omron with servers and minis OEM.

We didn't get the new name of **Unir Corp's** version of Calico, the AT&T object-oriented language, right last week: its actually styling it C+@ (say Cat) and continuing to call the environment Calico, which of course is a cat of many colours.

Apple Macintosh software house, **Iconix Software Engineering Inc**, San Diego, California, says its PowerTools CASE applications are now available on Sun and HP Unix workstations using **Xcelerated Systems Inc's** Liken Macintosh emulator for Unix which allows Mac packages to run in an X-Window on Unix kit. Iconix: +1 310 458 0092, Xcelerated: +1 619 576 3081

Parallel processor builder **Wavetracer Inc**, Acton, Massachusetts is to close its doors. An employee group hopes to re-form as a software and parallel systems integration firm.

Informix Corp had a good one, reporting fourth quarter net profits up 166% at \$22.2m on turnover that rose 78.5% at \$96.0m. Net profit for the year to December 31 rose 333.8% at \$54.7m on turnover that rose 57.7% at \$283.6m.

Sun Microsystems Inc is going to have to restate quarterly earnings to take account of settlements of two shareholder class actions totalling \$30m in damages against the company - the one related to fiscal fourth-quarter results from 1989, was settled for \$25m, the other one, from the 1991 fiscal first quarter was settled for \$5m.

Why was **Apple Computer Inc** prepared to grant **IBM Corp** the right to offer machines that include the Macintosh graphical user interface as part of the PowerPC agreement? Commenting on the chipmaker's 1986 technology exchange agreement with IBM, a top Intel Corp executive commented to the authors of *Computer Wars* that IBM's "Not Invented Here" mentality was so strong we could "trade them anything and be pretty sure they wouldn't use it."

According to Italian sources, **Sunsoft Inc's** Solaris-on-Intel operating system will make its debut on March 19 in Milan.

Apparently **Oracle Corp** has a dilemma: it can't decide whether to port Oracle System 7 to **Microsoft Corp** Windows NT and/or **Novell Inc** Netware. Oracle says it'll refuse to support Windows NT if Microsoft bundles the Sybase Inc SQL Server in the first release of NT. According to Sybase, the deal looks pretty much tied up. NetWare on the other hand, could open up the LAN market for Oracle.

The merger between two of the largest airline reservation software companies **Covia Corp**, Rosemount, Illinois and Denver, Colorado-based **Galileo Inc** is official. The new entity, to be called Galileo International, will have offices in Chicago, Denver and Swindon in the UK.

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AT&T is going to throw a party to end all parties at Uniforum next month. It'll be a way to acknowledge the end of an era as well as to acknowledge the people who contributed to it over the last 20 years. Hundreds of chief executive officers and senior Unix executives from all the Unix licensees and significant end-user sites are expected at the invitation-only affair. The place will be a veritable Who's Who. It should be the one drop-dead see-and-be-seen height-of-the-season function you'd run your grandmother over to go to. It's currently scheduled for St Paddy's Day.

DEC says it has a memorandum of understanding with a second source for the Alpha chip. It's 99% certain the deal will go through but doesn't want to identify the company until it's absolutely certain.

The company also says it's currently in negotiations with some five to 10 brand-name personal computer firms in the US, Korea, Japan and Taiwan to do Alpha boxes. The discussions apparently vary as to just the chips, just boards or private labeling. It figures it'll get one or two to commit probably in time for Spring Comdex and will eventually get five, but whether it's out of this lot remains unclear. Eventually, probably all will go to chip level.

It seems we should expect another DEC Alpha AXP box in between Jensen and Triumph: this one's code named Morgan, after still another English sports car. We're told it's a low-cost desktop with a built-in PCI bus. The Triumph code name, by the way, has been changed. Meanwhile, the company is bragging that it's having trouble dumbing down the Alpha chip to make it slow enough to sell against the 80486. It keeps coming out at 70 SpecMarks, it says. And DEC says it'll launch an Alpha-based Pixel Graphics subsystem in the next couple of months.

Santa Clara, California-based **Kubota Pacific Inc** will introduce a high performance graphics subsystem in March: the thing is intended for its DEC Alpha RISC-based Titan 2.0, a multiprocessing three-dimensional workstation due later this year, as well as Kubota's **Mips Technologies Inc** R3000-based Titan 1.0 machine.

Media Cybernetics Inc is planning on showing off its new platform-independent Halo Imaging Library at next week's **Software Development Show** in California: the stuff provides 100 imaging functions and commands, allowing programmers to write C programs that can read and store image files in several file formats and processing images in memory. It's available for Motif, Open Look, Mac, Windows and OS/2 priced at \$600 for a single workstation licence. +1 301 495-3305

Aurum Software Inc, one of the battery of new companies like **ProActive Software Inc** and **Clarify Inc** going after the nascent turn-key customer service management market, picked up \$3.75m in first-round financing from venture capitalists **Battery Ventures**, **Vertex Management** and **Cherry Tree Ventures**. The three-year-old firm, already profitable, says it will spend the money to increase worldwide marketing, enhance product development and expand customer support.

Robert Davoli, the president of **SQL Solutions Inc**, the **Sybase Inc** subsidiary, has hopped over to **Epoch Systems Inc** as its new president, replacing Christopher Robert who leaves to pursue private investment opportunities.

The **US Air Force** is going to be installing 350 DEC Alpha AXP workstations by April. The order, won by DEC and its prime contractor **Computer Sciences Corporation**, calls for \$4.2m worth of DEC 3000 Model 400 AXP machines immediately with the possibility of it going to 2,500 boxes, a value of \$30m, over the next four years. The hardware, meant for real-time mission monitoring and scheduling, will initially run under OpenVMS. Potentially it could move to OSF/1 in 1994.

IntelliCorp claims it holds patents it has yet to press on the mapping of relational databases to object database among other seminal items. Companies like **Next Computer Inc** have found the approach familiar and may yet get to feel further discomfited.

SunSoft Inc is planning on giving away free Solaris Developer Packs for Solaris-on-Intel or Solaris-on-Sparc at next month's Solaris 80x86 rollout-cum-Developers' Conference in California (UX No 421). Of course it costs \$700 to go. Its also going to roll out ex-Next Computer lynchpin Bud Tribble, now their vice president of end user software, for the first time to talk about future directions. SunSoft promises to unveil a comprehensive channel strategy for both versions of the operating system.

Having been closed out of the Pentium/NT market until the chip appears, **Corollary Inc** is back dusting off its 80486/Unix technology and enhancing its Cbus 1 product, making it meaningful for 486DX2s, adding 1Mb of cache at each CPU and going with the latest symmetric APICs. It's due at the end of March. Watch for Cbus 2 at Fall Comdex.

Unix System Labs says its soon-to-be parent **Novell Inc** had nothing to do with those staff cuts ten days ago at USL Europe (UX No 422).

DEC president Bob Palmer, who was supposed to grace this week's gathering with his presence - see front page - absented himself at the last minute. His office says he has kept at least 20 top-flight journalists and analysts cooling their heels waiting to interview him since October.

According to **IBM Corp**, which is busy trying to salvage and make sense of its core business, we are now to think of the mainframe as the complete server. It's got the I/O, bandwidth, memory and storage. It's also pegging the mainframe as the solution to "large business problems," all in the name of trying to justify why people should still be interested in what IBM has to offer. The company is expecting another double-digit drop in mainframe sales again this year.

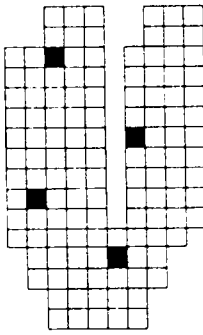
IBM is promising to come up with a cost-efficient CMOS microprocessor-based 390 in the second half of the year. It says it's already built a prototype. It paints a picture of a moderately parallel MVS-run 390 with 50 to 100 processors for complex query-based applications. Next year, it says, it will have a transaction processing offering. The chip, for cost efficiencies, would come off the same line as the RS/6000 chips but the silicon would be impressed with the 390 instruction set. IBM's mainframe unit now has a charter to package and integrate non-IBM product for its customers. This means just about every brand available.

MVS is still supreme in IBM's view and expected to be around through the decade as a leader. Unix, which is about the same age, just isn't as bullet-proof, it says. Likewise, it feels those RISC-based machines its new Power Parallel operation is developing (UX No 422) will be a long long time in becoming hardened and a significant contributor.

Along with **Santa Cruz Operation Inc** and **IXI Ltd**, **Unix System Laboratories** is said to have been amongst those approached by a gang of users and integrators known as Galileo, who are trying to get the industry working on a common graphical user interface end environment that behaves the same way regardless of which operating system and hardware lies underneath (UX No 415).

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NT's SHADOW FORCES UNIX BODIES TO SEEK COMMON GROUND, AS UI OPENS UP TECHNOLOGY SELECTION PROCESS

Microsoft supremo Bill Gates is doing more to unify Unix than any other single human being in the last five years. Fears that Windows NT will knock the stuffing out of a fragmented Unix industry have galvanized Unix International to reinvent itself. It wants to be the catalyst of a unified Unix industry. If successful, its moves would also ensure UI's continued existence. To arbitrate this unity, UI has, as expected (UX No 414), wrestled the authority to pick technologies above the operating system away from Unix System Laboratories Inc and opened up the selection process to the industry at large. From now on the companies on UI's executive committee, currently home to the likes of Sun Microsystems Inc, NCR Corp, Unisys Corp and ICL plc and some of the Japanese firms, will select the reference technologies for items such as networking, object orientation and multimedia. UI will no longer be just a requirements body or a marketing arm for USL. It is hoping its embrace of a wider field of players, coupled with a commitment to encourage competing implementations, will find enough favour with the Open Software Foundation and its key members, IBM Corp, Hewlett-Packard Co, Digital Equipment Corp, Hitachi Ltd, Siemens Nixdorf Informationssysteme and Groupe Bull SA, for them to lay down their guns. Reportedly UI has spent the last six months explaining its vision to these companies (UX No 391). Apparently the response has been encouraging. Under the threat of NT the current mood of the industry seems to be for one requirements body, a consistent set of requirements and one open system. However negotiations could still take another six months and there are no guarantees. It remains to be seen what would happen to OSF and its precious OSF/1 operating system under these circumstances. Merger is of course a possibility and may be even desirable given OSF's financial distress. Then too OSF and UI might divvy up the turf with UI handling requirements and technology selection and OSF doing development. After all there aren't that many places that can do the sort of development work needed. Most recently, the idea of joint RFT technology requests has been winning friends. UI says that to be selected as a reference technology a company will now have to promise to provide snapshots for early access, follow established licensing and conformance guidelines which do not include pricing, and adhere to evolution requirements. UI will oversee conformance testing via its Architectural Review Board and more than likely brand everybody's stuff. It claims that its publication of the interface specifications, which include ABIs, will encourage multiple competing technologies to come forward. All conformance testing will be handled by the reference company. However, UI insists that internal procedures will level any bias.

APACHES DEBUT UNIX SVR4 BINARY INTERFACE FOR MIPS CHIP

The Mips ABI group, the old Apaches, the last vestige of the spoiled ACE Initiative, last week wheeled out its long-anticipated Unix SVR4-on-Mips application binary interface developed on a Risc/os 5.01-run Mips Technologies Inc Magnum 3000 reference platform. The important compatibility advance will allow software to run unchanged on all Mips products regardless of supplier. The cost savings accruing to independent software houses because they will no longer have to support multiple versions of their products is expected to entice others into the fold and redirect investment into added features and more robust programs. The group believes that its collective strength will make it second in the software queue behind only Sun Microsystems Inc with its 141,000 seats to Sun's estimated 241,000 single-user systems. Members such as Control Data Systems Inc and Silicon Graphics Inc announced their immediate compliance with what Mips ABI calls the Black Book. Pyramid Technology Corp will adhere by next month, Siemens Nixdorf Informationssysteme AG by mid year and Concurrent Computer Corp by early 1994. Software companies supporting the Mips ABI include Oracle and SAS Institute, who helped in its definition, IXI, Z-Code Software, Veritas, Syntax, Quadratron, Neuron Data, Mentor Graphics, Interleaf, Information Builders, Frame, Empress Software, Digital Tools and Acucobol. In Japan, NEC and Sony have established the OCMP or Open Computing environment for Mips Platform specification for Japanese companies, a standard now supported by Sanyo, SNI, Sumitomo, Nihon Silicon Graphics, Olivetti of Japan, Tandem Japan and Pyramid. NEC will be fully compliant by June.

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DESTINY FOR SPARC, MIPS

Unix System Laboratories Inc will reportedly announce Destiny, aka Unix SVR4.2, for Sparc and Mips platforms at Uniforum with delivery to follow thereafter. USL expects Sparc compatible builders like ICL plc to pick up the former, with the Japanese and maybe firms in the Mips ABI group going for the other.

SCO EYES MERGED UNIX

Meanwhile, Santa Cruz Operation Inc, which bit the ideological bullet, though not all the SVR4 technology, last summer (UX No 398), is thought to be eyeing USL's combined Unix SVR4.2 ES/MP release for future use, although that could be as far as two years out. SCO has argued that adoption of SVR4 is not a price issue for it, but is dependent on USL meeting certain technology requirements, in multiprocessing for example, where SCO already has its successful MPX Unix-add on. A combined Unix SVR4.2 ES/MP will apparently fulfill enough conditions for SCO to bring its MPX users over too.

...AS USL AND SCO COSI UP

Meanwhile, news on the fly has Unix System Labs and Santa Cruz Operation Inc - plus at least one other ISV - preparing to lend their support to a common operating system interface effort, COSI. Apparently the two suppliers are now agreed (or have at last been convinced by third parties) that a unified user environment for their respective Unix implementations, combining shared APIs and front-end elements - from desktop objects down to high-level system administration functions - makes sense. COSI is thought to be part of a much broader technology effort now coming together that will likely involve IBM too in some way, though no-one we spoke to was prepared to elaborate further for fear of upsetting delicate negotiations. Announcements on all or parts of the effort are promised this week as soon as parties sign off.

15 BID FOR OBJECT SERVICES

Fifteen companies combined last week to make a single joint submission to the Object Management Group in its quest for Object Services, its first such Request For Technology (UX No 420). The RFT closed Friday February 19. As we went to press, the OMG expected to have in hand eight submissions representing some 25 companies. The 15 companies who banded together include Sun Microsystems Inc, Hewlett-Packard Co, Tivoli Systems Inc, Hyperdesk Corp, Novell Inc, Digital Equipment Corp and all of the object database concerns. Many of them were involved in OMG's original object request broker selection. Meanwhile, membership continues to build for the OMG. It is now up to 305 members, the last five coming in last week alone.

UK RESEARCHERS ACHIEVE

1 ELECTRON GaAs MEMORY CELL

Researchers from Hitachi Europe Ltd's Cambridge Laboratory, working with Cambridge University's Microelectronics Research Centre claim to have fabricated a memory cell that uses a single electron to store one bit, vastly reducing the power that would be required by huge-capacity memory chips - a device the size of a silver dollar could store 1T-bits while drawing just 0.1W: in current technology it would be the size of a tennis court and dissipate 10KW. The one-bit device developed by the Cambridge scientists utilises the so-called Coulomb Blockade Effect where, if an isolated area of conductor is made suitably small, the change of stored energy resulting from the gain or loss of an electron prevents further electrons from entering, and existing ones from leaving. The memory node itself is a small conducting region connected to an external circuit by a multiple tunnel junction and controlled by special gate capacitors. Electron transfer to or from the node is only through the tunnel junction. Memory node voltage depends on the number of electrons at the node and the the voltage applied to the gate electrode. When operating within the Coulomb blockade, the number of electrons in the memory is kept constant but slight increases in node voltage changes the boundaries to enable electrons to be transferred. To discharge the node, added electrons must be removed one at a time, which needs a definite voltage change. This leads to hysteresis, with two possible electron states for the same applied voltage, enabling the memory states to be defined. The device is fabricated in Gallium Arsenide using electron beam lithography to define special side-gated channels. The researchers have found that it is possible to control the movement of electrons by adjusting side gate voltage though they say it is an area that needs further research. More work is also needed to reduce the memory structures to dimensions of below five thousandths of a micron and so enable it to operate at room temperature. At present the device will only operate at around minus 273.05oC! Indeed, the reserchers expect it to be another 10 years before devices using the technology can come to market.

STRATUS FINDS THE GOING TOUGH IN SPAIN

Outside the financial world, customers in Spain are ignorant of the advantages of fault-tolerant computers, and apart from government and telecommunications bodies, few are interested in Unix either, although this market is growing, according to technological consultant for Stratus Computer Inc, Carlos Morales. He says even though his company has been operating in Spain for the past 10 years, it has found it difficult to establish a market there. Users know little about fault-tolerant technology in general, he stated, and even less about actual hardware, although Tandem Computers Inc's offerings are somewhat more familiar. Customers are also scared off by prices, he added, because some of them still believe that fault-tolerance means simply installing two machines that cost twice as much. While financial institutions can see that such technology saves them cash, companies that find it more difficult to calculate the cost of a breakdown are more reluctant to commit. As for Unix, Morales said that Stratus has met similar problems to other manufacturers - many customers aren't willing to alter systems in which they have invested a lot of money and personnel over the years. Conversely, a number of companies that are starting from scratch actually insist on Unix, and Morales attests to a growing demand for open systems in Spain.

UK UTILITIES BEATEN TO REMOTE METER READING

Compania de Aguas de Sabadell SA, Cassa, and Telecom Valles SA have spent about \$50,000 on developing a system for reading water meters over the telephone. Sabadell-based Cassa's head of computing services, Jaume Matutes, said that the scheme was operated by three systems at company headquarters: an IBM Corp AS/400 for general commercial management; Data General Corp Unix machines, which connect to the AS/400 and manage the meters; and another unspecified Unix machine, used to control the supply network. A Unix machine automatically makes a call to a meter, and reads the information stored there. Any variations in data since the last call was made are checked on-line. The information is then entered into Cassa's Oracle Corp database. Each meter, Matutes said, has an impulse out-port, which sends signals to some 64 16MHz 80286 primary concentrators. The primary concentrators process and store information, received from some 40 meters. The primary concentrators are attached to secondary concentrators, which are, in turn, connected by a telephone line to the central computer at Cassa's headquarters. Data is stored in the central system, where specialist software looks after billing. Terrassa-based Telecom Valles, which provided 50% of the cash for the project, developed and installed the meter system.

ICONAUTHOR DEVELOPER AIMTECH CORP

BUYS TIGER MEDIA AND ITS CATS MEOW

Nashua, New Hampshire-based multimedia company AimTech Corp has acquired the assets of Tiger Media Inc. The Los Angeles-based developer has perfected the art of delivering applications developed on Sun Microsystems Inc workstations to other systems through its Cats Meow product - techniques considered of great strategic importance to AimTech which is keen to maximise the portability of its IconAuthor Windows-based authoring tools. Cats Meow, which began shipping in 1991, is a system for building interactive information applications on Sun workstations using graphics, audio, text and video. It is used by AT&T Co, Eastman Kodak Co, Merrill Lynch & Co and Toshiba Corp. AimTech is planning to launch a revamped version of the system in April. Also planned for around that time is a version for Silicon Graphics Inc's system offering users three-dimensional graphics. AimTech's Tiger Media acquisition also ties in neatly with its planned excursion into the market for interactive home entertainment systems. Along with Cats Meow, it is to add Tiger's best-selling CD titles: "The case of the Cautious Condor" and "Murder Makes Strange Bedfellows" to its product line. The two 1930s- style comic book murder mysteries are available on CD-ROM and run on Windows machines, Sparcstations and Amiga personal computers. The main thrust of AimTech's business is to remain dedicated to marketing IconAuthor, however. As its name suggests, IconAuthor is an icon-based programming system aimed at non-developers wishing to create interactive multimedia presentations for computer-based training, simulations, marketing and retail self-service terminals. It presently runs under Windows 3.0 and upwards on personal computers; Unisys Corp ST-1000 kiosk terminals; DEC VMS and Ultrix systems and Hewlett-Packard Co 9000 Series 700 and Data General Corp AViiON workstations under OSF/Motif. It has been used for a wide variety of projects so far. The Department of Transportation in Maryland, for example, used it for an interactive touch-screen system providing tourists with video, textual, graphical and audio information about the city and its transport network. The screen, which is located in a self-service kiosk near the Baltimore Orioles stadium at Camden Yards, has proven such a hit that a further 33 similar kiosks have been planned across Baltimore. A computer-based maths teaching package is also being jointly developed by Apricot Computers Ltd and Birmingham City Council in the UK using IconAuthor. And as testimony to its 'user friendliness', an enterprising British Airways employee - a cabin crew member rather than computer programmer - recently developed a safety training course in just 12 weeks using the system.

Further offices abroad

There are now around 2,000 IconAuthor users worldwide - including 100 application developers - which are spread across 25 countries. This makes IconAuthor the leading Windows-based product in its field, according to AimTech. The company also has a number of strategic distribution partnerships. IconAuthor is to be rolled out under the auspices of IBM's Multimedia standard this year in the UK, for instance. HSC Interactive in California has used the system to develop multimedia applications; NCR Corp will be shipping IconAuthor as a 'recommended product' for its new 'learning stations'; and, as mentioned above, Silicon Graphics has also endorsed IconAuthor. Though it has amassed just 48 employees since its formation in 1984, AimTech has spread its operations to Los Angeles; Denver, Colorado; Washington DC and London. It is looking to open further offices abroad too, to complement the distributor network it has set up across Western Europe, the Pacific Rim and Australia. The privately-owned company turned in \$4m turnover last year, up 124% from 1991, and is expecting to double its figures again in 1993. London-based AimTech Europe Ltd, which opened in 1991, currently contributes about 22% of total revenues. Product sales accounted for around three quarters of its turnover last year. However it seems likely that the firm's training, consultancy, courseware development and custom engineering services are likely to contribute an ever increasing percentage to company profits. But this will not affect the pace of product development work. IconAuthor was upgraded to version 5.0 last year; support for Microsoft Corp's Video for Windows and Tandy Corp's Video Information System was added; and a Macintosh player for applications developed under Windows was announced. An SQL driver is planned for later this year along with Silicon Graphics and Sun system support.

HARRIS BACKS MOTOROLA 88110 ALONGSIDE POWERPC

Motorola Inc's 88000 RISC family seemed to have lost out at Harris Computer Systems Corp when the Fort Lauderdale, Florida-based firm announced it was switching allegiances to the IBM/Apple/Motorola PowerPC architecture (UX No 407), however the company now says it will roll-out 88110 versions of its Night-Hawk real-time machines by the end of March. Harris will market 88110 and PowerPC lines side by side. Harris had scheduled the 88110 machines for release in December, but because of caching problems it was delayed. According to Motorola, the function allowing the 88110 to switch between different caching modes - write-through and copy-back - was faulty. The firm immediately respun a new batch of 88110s for Harris. Another Motorola Inc 88110 user, Data General Corp plans to introduce its Motorola Inc 88110 Avion machines this quarter. Meanwhile, Motorola has at long last revealed its initial pricing for the 88110: 50MHz versions are \$495 and a 40Mhz parts costs \$360 - both in quantities of 1,000-up.

...AS 88OPEN SOLDIERS ON WITH NEW FUNDING

88open says it'll be in business for the new fiscal year starting in April. Its members have paid all their dues, some \$3.5m, so the operation won't have to do any trimming. 88open chief Tom Mace notes that a full subscription list means some of his members are pulling double duty joining other consortia as well. 88open's idea of licensing its compatibility technology however looks kind of stalled having managed to pull in only Hewlett-Packard Co as a customer. Mace says part of the difficulty is that potential customers want the stuff customised and 88open won't do that for them. We've heard the soon-to-be PowerOpen people are eyeing Mindcraft and Unix System Labs, while not having closed the door on negotiations with 88open, is looking to Unisoft Ltd. Of course in both cases their technology covers system software not applications the way 88open's does.

MICROSOFT BRINGS NT TO UNIFORM

First there was the Berlin Wall falling. Then there was IBM Corp falling. Now a third previously impossible-to-contemplate occurrence is about to happen: Microsoft Corp will be exhibiting at the UniForum Unix trade show in San Francisco between March 15 and 19. Microsoft's Windows NT group has signed up for a 20ft by 20ft booth, claiming it doesn't have the budget for a bigger space. Meanwhile, UniForum - the US Unix user group - has scheduled an executive session for Friday March 19 with Roel Pieper of Unix System Labs, David Tory of the Open Software Foundation and Paul Maritz of Microsoft Corp speaking for 10 minutes apiece then opening the floor to an hour's worth of questions and answers.

HP CUT 1,700 JOBS IN QUARTER

Hewlett-Packard Co accompanied news that it had made \$261m net profit for its fiscal first quarter (a decline of 21% before a big accounting charge last time) with news that it cut 1,700 jobs worldwide during the period. It said 1,200 of the 1,700 employees that left during the quarter did so after voluntarily accepting severance packages, and it expects more departures as the job-cutting programme spreads to new countries. The payroll rose by 500 to 93,100 after consolidation of the 900-strong arm in Brazil. Orders rose 24%, up 18% in the US to \$2,100m, foreign by 28% to \$3,100m.

DATA GENERAL WINS BULL FOR ITS CLARIION RAID DISK ARRAYS

Data General Corp's foray into integrated storage subsystems with its CLARiiON disk array has won Compagnie des Machines Bull SA as a customer. Bull has signed for exclusive rights to offer the RAID disk arrays with its IBM Corp RS/6000-derived Unix systems and servers. The two say they will also investigate areas of co-operation on future-generation storage products. No value has been given for the OEM agreement.

KUBOTA READIES ALPHA WORKSTATION, GRAPHICS SUBSYSTEMS

Kubota Pacific Inc, Santa Clara, California, will next month introduce a new workstation and a family of graphics subsystems based upon Digital Equipment Corp's 64-bit Alpha AXP RISC. The three-dimensional graphics and imaging workstation - provisionally known as Titan 2.0 (the name is to change by the March 30 launch date) - will be configured with multiple Alpha AXPs. Kubota claims the box will outperform Silicon Graphics Inc's hottest new box, the Mips R4400-based Indigo2 Extreme, announced a couple of weeks ago (UX No 421). There will be at least six new Alpha-based three-dimensional graphic subsystems housed in "pizza box" casing, which will plug into TurboChannel slots on Alpha AXP workstations running Open Software Foundation's OSF/1 or Microsoft Corp Windows NT operating systems. There will be no support for DEC's OpenVMS. Kubota has stopped production of the Mips Technologies Inc R3000-based Titan 1.0 machines which it inherited from its now defunct Stardent Inc sibling. The Titan architecture came originally from graphics specialist Ardent Computer Inc which merged with arch rival Stellar Computer Inc to form Stardent back in the autumn of 1990. Kubota will honour existing support and maintenance contracts for the 1,200 Titan 1.0 users worldwide.

...AS DEC WINS BOARDMAKER FOR ALPHA; ENCORE UP IN AIR

Digital Equipment Corp has rallied a Laguna Hills, California start-up, Carrera Computers Inc to its Windows NT-on-Alpha cause and the company will begin selling motherboards built around the 150MHz Alpha AXP RISC chip in the third quarter, according to *US PC Week*. Personal computer and workstation manufacturers are expected to be able to use the board to build powerful file servers in the \$10,000 price bracket. Meantime, the agreement under which Encore Computer Corp may switch to the Alpha from the Motorola Inc 88000 that it presently uses is apparently not a done deal yet. According to *Electronic News*, the two hope to wrap up negotiations within 60 days, but that terms for Encore to do Unix System V.4 and Oracle7 reference implementations for the Alpha, and possibly license its Unix clustering capabilities to DEC, are not yet finalised. DEC would also like Encore to buy some Alpha AXP systems and offer them in place of its real-time 91 and 93 systems, as well as building successors to its parallel Infinity 90 machines out of Alpha microprocessors.

NOVELL, AT&T SET DEFINITIVE AGREEMENT ON UNIX LABS

Novell Inc finally has definitive agreement with AT&T Co for its proposed acquisition of Unix System Laboratories Inc, which was announced just before Christmas. AT&T owns about 77% of Unix Labs, Novell currently holds about 5%, with the 11 other investors sharing about 18%. The total value put on the business is 12.3m Novell shares, giving it an indicated value of \$323m. In addition, outstanding Unix Labs stock options and other equity incentives will be exchanged for Novell stock, options or rights to acquire Novell shares. The pact was approved by the boards of Novell and of AT&T but is still subject to regulatory and shareholder approvals.

CLOCK-TRIPLED 100MHz 80486DX3 TO FOLLOW LAUNCH OF INTEL PENTIUM

Intel Corp has no intention of consigning its 80486 processor to the scrapheap when it launches the Pentium, and later this year it will come out with a 100MHz clock-tripler 80486DX3 version of the part, *US PC Week* reports. In early 1994, it will follow up with a bridge to the next-generation Pentium with the P24T, a 32-bit, Pentium-class upgrade chip for 80486 machines. The clock-tripling 80486, called the P24C in development, is due out in the autumn. It will operate at 3.3V and use built-in power-management logic to reduce the heat.

IBM MAKES A START ON OPENING UP THE AS/400

IBM Corp last week took its first step towards saving the AS/400 from going the way of the mainframe when it accompanied the new F models with a string of software offerings and initiatives designed to make the machine sit more comfortably as a database server in an open systems environment.

It also has a new non-upgradable entry model, the 9402 A02, which supports up to seven workstations and is about £6,000 with OS/400 - available only in the UK, Italy and one or two other European markets - not the US or Japan. The new 2.3 release of OS/400, due to ship at year-end, is a prerequisite for most of the software improvements. The four areas of software improvement are openness and Posix compliance; language support; distributed client-server computing; and systems management. The structure of OS/400 and the hardware are being remodelled not only to look and behave more like Unix, but actually be more like Unix; with commitment to support the four basic level Posix standards, 1003.1 to 1003.4, IBM says Posix will be central to the re-design of OS/400, built into the licensed internal code beneath the machine interface level. The proprietary AS/400 processes, which IBM says are more resilient, will be supplemented with Posix processes. On languages, IBM is replacing its original program models for C and Cobol and its extended program model for RPG with the Integrated Language Environment, so that in OS/400 2.3 there will be a common block of routines and procedures that all language compilers use. Dire C/400 performance should improve dramatically with compilation times at least halved. The Environment will also make it possible to call up other programs faster, whatever language they are written in. There are new ILE/C400, ILE/Cobol 400, and ILE/RPG400 compilers, but apart from C, not until next year. The open client initiative involves co-operative development work and marketing agreements, primarily in the US, with many key personal computer software and hardware suppliers. Showcase Vista from Rochester Software Connection Inc will make it possible to extract data and manage it using the Macintosh; and an IBM-Apple facility called shared folders will enable Mac and AS/400 files to be managed together on the desktop. Access from Windows and MS-DOS machines will be possible from Oracle, using SQL*Connect, from Showcase using Microsoft Corp's Open Database Connectivity. OS/2 machines will be able to access the AS/400 using enhanced Rumba and Showcase software, with other tools to be announced and the RS/6000 can connect as a client using the TCP/IP File Server Support/400 program and Connection Program/6000. There is a new implementation of Network File System. On management, IBM has been working with Candle Corp, and will be offering Omegamon/400 for monitoring AS/400 resources; Automated Facilities/400, for automatically managed AS/400 jobs; Omegaview/400, giving a single workstation view of the entire network. On the F models, with the 9406 models using a new BiCMOS CPU, IBM claims performance gains of up to 60% - a 15% to 45% range is more realistic, with the F50 the star - at about the same price as the E models they replace. CMOS models are out now, BiCMOS in May.

WILL SHED 1,200 JOBS IN JAPAN

IBM Japan Ltd is not risking the opprobrium that fell on Eastman Kodak Co when it fired two thirds of its Japanese researchers and withdrew offers of employment it had made to graduates, but it does want to get its 25,000-strong workforce down by 1,200. It is offering its 3,000 employees over the age of 50 a voluntary early retirement programme under which they will get full retirement benefits and a year and a half of extra pay if they leave the company and start their own companies in businesses related to IBM. IBM Japan said it will not consider measures that would force employees out despite its economic woes because of customary life-long employment in Japan. Some observers reckon Kodak's business will be so poor in the wake of its lay-offs that it might as well depart Japan altogether.

HP SOFTBENCH FOR ALL IBM SYSTEMS

Casting grave doubt on the future of any in-house repository at IBM Corp, the company has extended its existing licence for Hewlett-Packard Co's SoftBench Framework to include non-Unix IBM systems such as OS/2 - the original licence for the software engineering tools environment covered IBM's AIX-based development offerings only. The SoftBench Framework technology provides the underlying tool-to-tool communication that IBM used in its SDE WorkBench/6000 and SDE Integrator/6000 products, and incorporating the Framework with other IBM systems will enable IBM's Systems Application Architecture users to participate with systems based on a Unix operating system in an open, heterogenous environment. SoftBench Framework technology, has also been licensed by Informix Software Inc, Control Data Corp, Siemens Nixdorf Informationssysteme AG, Objectivity Inc, SAIC Inc and Taiwan's Institute of Information Industry. SoftBench Framework is designed to provide user interface and tool communication services for the open integration of more than 70 software development tools.

...BETA TESTS DISTRIBUTED SYSTEMS OBJECT MODEL

IBM Corp late last month began beta testing its Distributed System Object Model, which is intended to provide the underpinnings for the company's future object-based software, *US PC Week* reports. The Model builds on OS/2 2.0 and the System Object Model of the Workplace Shell, an object-oriented schema that provides a standard way to write class libraries and a general-purpose mechanism for communicating between objects. The new Model extends the capability to a distributed environment, so that objects can be shared among networked systems. Although the thing is initially being tested under OS/2 2.0 and AIX, IBM plans to incorporate it in future operating systems and to do versions of the Distributed System Object Model for other systems - and the Taligent Inc joint venture with Apple Computer Inc also has licence to the technology. IBM is also working with Apple on Bento, Apple's format for identifying and interchanging objects, and is looking at using the two developments together.

TALIGENT TO SHIP TOOLS "THIS YEAR"

Although the Taligent Inc environment is not due to ship until late 1994 or early 1995, the Apple Computer Inc-IBM Corp joint venture faces heightened competition from Next Computer Inc now that its options have shrunk to making a success of its NextStep environment, and a hot wind from Cairo - Microsoft Corp's Cairo, that is, is blowing down their neck. Accordingly, *US PC Week* reports, Taligent now plans to ship technology to developers later this year, starting with development tools for OS/2, AIX and Macintosh System 7, the idea being to get developers started with the new technology. The Taligent environment, derived from Apple's Pink, has been designed from the ground up as an object-based system and includes a user interface, a development environment and operating system kernel.

DEC TO DEBUT SVR4 PERSONALITY "BY SUMMERTIME"

Digital Equipment Corp is expected to begin deliveries of its Unix SVR4 on top of OSF/1 version 1.2 running on Alpha AXP systems as soon as this summer (UX No 423). DEC says it won't shy from promoting and advertising the add-on to potential customers, as it believes large corporates and telecommunications firms, some which specify SVR4 in any case, are already interested in the personality. In the run up, DEC will put in place a campaign aimed at independent software vendors, OEMs and other technology partners which will stress the ability to run the catalogue of Unix SVR4 applications on the personality, plus OSF/1 software, from within the same environment. DEC says it'll go along with the Open Software Foundation's choice of symmetric multiprocessing technology and expects it to be delivered in a new release early next year. DEC says it has no plans to offer a similar personality for its OpenVMS operating system, but officials at the company's "Unified Unix" briefing a couple of weeks ago admitted it would be "good marketing hype."

UNIPLEX SEES GROUPWARE FUTURE, DEBUTS ONGO OBJECT-ORIENTED OFFICE SYSTEM

Uniplex Ltd, the Hemel Hempstead-based Unix office automation stalwart, has begun to rem-fashion itself as a groupware house, an effort that will take another 10 to 12 months to realise. The first pieces of Jason, once also called Medley, its long-awaited graphical object-oriented next-generation product for client/server environments, is being rolled out as the tip of an overall strategy it has dubbed Nouveau. Jason, now officially styled onGO, initially consists of two modular components: onGO Office, an X.400-based mail transport system with built-in calendaring and scheduling co-developed with Hewlett-Packard Co, and onGO Write/Paint/Draw, a WYSIWYG document publisher whose titling alone suggests competitor Island Graphics is next on Uniplex' hit list. OnGO Office is the core element behind Uniplex's client/server architecture, providing enterprise-wide network and mail communications, X.500 routings and gateways, TCP/IP and open systems interconnect support and a set of object libraries. It is also the interface to Novell NetWare, fax and telex. Office is the transport mechanism that down the road will allow Uniplex to break into mail-enabled process automation, the true definition of groupware. Before it gets to the groupware level Uniplex says it will have to license or acquire pieces of technology. Already it has a license arrangement with object maven Hyperdesk Corp and apparently intends to use the Object Management Group's Object Request Broker. In essence Groupware requires customisation since business processes differ office to office, industry to industry. Uniplex is putting itself in a position to do that internally with the acquisition three weeks ago of IMI Consulting, a \$2.3m Connecticut-based subsidiary of Uniplex's \$1,500m parent company IMI plc specialised in downsizing, gateways, SNA and big IT environments. It is now a part of Uniplex US and will be selling onGO. Uniplex says it will provide application programming interfaces and gateways between onGO and its existing software to insure migration and coexistence. Data General, which will be co-developing subsequent releases, has built its office strategy around onGO and so onGO will appear first in April on its AViiON boxes plus IBM RS/6000s, HP9000s, SCO and Solaris 2.x machines will be added in the summer with Alpha/OSF and UnixWare for both Intel and MIPS coming in the fall. It will start with X Windows and Motif clients, adding Windows, character-based, NT, OS/2 and MACs over the course of the year. Uniplex probably rightly foresees Windows predominating at the client and Unix at the server. OnGO's next enhancement should include multi-level security, X.500 standardised directories, database links, OLE support and intelligent filter capabilities. Graphically oriented programming tools, APIs and cross-application macro facilities will also be offered. Office's price is \$70 a user for 100 users; Write/Paint/Draw is \$300 a user for 100 users.

HYUNDAI'S AXIL UNDERCUTS SUN WITH SPARCLASSIC CLONE

Hyundai Electronic America's Axil Workstations Inc is bent on conquering the slippery slopes of Sun Microsystems Inc Sparc cloning, and last week announced the Axil-220, a MicroSparc knock-off of the Sparc Classic undercutting Sun by pricing it at \$3,600 in single quantities and letting it run Solaris 1.1 as well as 2.x. It says it is the lowest priced RISC colour workstation in the industry. The San Jose, California-based outfit Axil is taking a leaf out of Compaq Computer Corp's book and will only sell through resellers under the direction of sales and marketing vice president Dan Shaver who recently left a job with Sun as director of its channels strategy. The street price it put on the box is only a ballpark figure (a 10%-15% differential) and it will not reveal its dealer discounts. Axil will also configure the machine to look like a Sun LX, the Classic's \$8,000 big brother and price it around \$7,000. Although the company is on Sparc International's executive committee and Tsunami chips are reportedly available to firms other than Sun, the boxes will not be available until June. In the interests of further added value, the Axil-220 can be expanded to 128Mb (Sun's at 96Mb maximum) and all configurations include fax/modem and ISDN options as well as two drives, larger screens and larger external storage. Axil also introduced an Open Look-based fax/modem package called AxilEnvoy as the first in a series of software products to provide added functionality such as voice mail, conversation record/playback, multimedia document support, security, image filtering and editing and optical character reading. All configurations can be ordered from the board level up. Axil started recruiting value added resellers overseas and 24 are in place internationally. Master VARs with Unix experience are still needed there. The domestic programme kicked off in December and has so far rounded up 32 resellers out of a desired 50 with access to key accounts, Unix expertise and a vertical orientation. They should also garner a minimum of 35%. It predicts that 50% to 60% of the workstations sold in the US will go through indirect channels by 1994. IBM Corp and Hewlett-Packard Co distributor Dickens Data Systems has been signed as a master VAR. Axil, which introduced other Sparc compatibles earlier on, says it has been shipping hundreds of units a month and is on the verge of moving to a thousand.

CHEN ABANDONS OLD FIRM, IMMEDIATELY STARTS NEW ONE

In a bizarre twist in the saga of the failure of Supercomputer Systems Inc, the company last week announced that it had abandoned efforts to find new investors to keep the company alive - and then Steve Chen immediately announced that he was forming a new company that will seek to create the world's fastest computer. He reckons he needs between 50 and 100 people in the next few weeks, presumably all drawn from the 300 or so that lost their jobs when his first company closed its doors. Chen said the new company will draw on potential investors located while he was trying to save his old company: "We will now apply what we learned in designing and building a new machine for early market introduction." That work was done on the nickels of a string of major investors led by IBM Corp, which is thought to have lost between \$100m and \$200m on the failed venture - but Chen's announcement that his new company, Supercomputers International Inc, will draw on work done by the failed one raises the question of who owns that work. The new company, not surprisingly, will receive no funding from IBM; the old company failed because it couldn't raise the \$60m it reckoned it needed to bring the SS-1 to market. The company had a prototype built and running, and employees say it ran at 51.2 GFLOPS peak - three times the performance of the best machine commercially available.

BUSINESS OBJECTS LAUNCHES IN UK

As reported (UX No 422), database access firm Business Objects Inc, Menlo Park, California, has established a UK operation in Marlow, Buckinghamshire. The company has a software package, BusinessObjects, which allows users to access relational database information without the need to know Structured Query Language, SQL techniques. With the system, a customer's technical staff can create a range of objects which can be deployed separately, or strung together by users, to generate database queries. The objects, which are selected by dragging and dropping from a menu, could for example, reference patient name, number and admission date in a hospital administration system. Hidden from the user, the objects generate SQL commands which are fired off to the database. The resulting information can be displayed by the user as a mix of reports, graphs and tables. Written in C and C++, the software comes with what the firm calls a universal dictionary - a set of object mechanisms which can be tailored to individual requirements - and an inference engine which generates the SQL statements. The firm claims three of its objects are as powerful as seven handwritten SQL queries, with 50 objects combining for up to 1,000,000 possible queries. All processes execute on the local client - not on the central host processor - and version control ensures the dictionary (list of objects) is only downloaded once to each client, on the first time of use. Information from existing database CASE tools the customer may be using can be integrated into the BusinessObject dictionary at the entity level.

Dialects

The software recognises various dialects of SQL and is positioned as a data access tool rather than 4GL or executive information system (EIS), although it combines elements of each. Information pulled from the database can be re-directed into other applications and EIS systems, but BusinessObjects does not update the database. The software is available for MS-DOS, Windows and Apple Macintosh systems and supports Oracle, Ingres, Sybase, DEC Rdb and IBM DB2. Unix, OS/2, OSF/Motif, Informix, Teradata, SQL/DS and SQL/400 support will be added this year. The company is talking to Sun about an Open Look port and is currently testing a Windows NT version. Specific device drivers are required for each relational database. Prices start at £8,320 for an eight-user, one manager system. 50% of the firm's business is direct, the other half comes from ISVs writing database-independent applications using libraries of re-usable BusinessObjects.

Bridges

President and founder, Bernard Liautaud, and director of UK operations, John Powell, hail from Oracle Corp, and it's therefore not surprising the firm does most of its work at Oracle sites and with Oracle application developers. It is currently building a bridge between BusinessObjects and the Oracle CASE dictionary, with others planned. The three-year-old outfit started life in Paris, where 23 development staff are based. The rest of the 70 employees are located at sales and marketing operations in Menlo Park, Dallas, Chicago and New York with 10 in Marlow, UK. The privately-held firm claims turnover rose 250% to \$6m in 1992 - £1m in the UK - and expects that figure to double in 1993. It'll add some 40 additional staff over the period. Two rounds of venture capital funding have netted \$3m - investors include France Telecom's venture arm and Atlas Venture, a Dutch concern that helped Sequent Computer Systems Inc into the world. A third round of financing isn't planned as Liautaud is looking towards initial public offering in around two years' time. BusinessObjects claims 60 UK customers and 400 worldwide with sites employing BusinessObjects on databases storing as much as 12Gb of information. Work on new graphics, reporting and integration tools aimed at the EIS market is underway, but the firm is steering clear of application development per se for the time being. +44 628 487722.

EURO REPORT SAYS DESKTOPS WILL PROLIFERATE

UK market research firm, Ovum Ltd, London, believes the European market for desktop computers will grow from an installed base of 22 million in 1992 to 46 million by 1996. It reckons Unix will continue to dominate in the technical arena and says OS/2 will flourish at corporate sites where personal computer communications are important. It expects the 78% share of desktops currently running by MS-DOS to fall to 29% by 1997, the Apple Macintosh to retain a 10% share over the period, Windows to rise from last year's 7% to 28%, Unix to grow from 4% to 10%, OS/2 to rise from 1% to 8% and Windows NT to grow from nowhere to 14% over the five years. +44 71 255 2670.

SUN READIES MOSCOW OFFICE TO SERVE CIS

Sun Microsystems Inc will shortly open a wholly-owned subsidiary in Moscow, which will serve the Commonwealth of Independent States. CIS includes the rump of the former Soviet Union, minus the Baltic republics and Georgia, though Georgia will come under Sun's CIS Region umbrella. Managing director is Robert Hall, currently at Sun's Mountain View headquarters. He will head a start-up team of seven staff which is expected to grow to a dozen or more over the next six to nine months. Some will move over from existing Sun operations, like Sun UK's Andrew Rattigan, who will focus on business operations, and handle stuff like import licences and relationships with corporate CIS partners. At least half of Sun CIS Region employees will be drawn from the local IT industry. Bob Kloak is to lead a technical support team, staffed with local expertise, while Isaac Oak, a native Russian, will look after major accounts. Hall says the operation will promote all of the Sun satellite business products.

Cheaper boxes

While the price of doing business in Russia is high - the cost of office space in Moscow, for example, is rocketing - Hall reckons Sun kit will cost less in CIS than it does in the rest of Europe, where customers are used to paying a premium for IT products. There are some CoCom regulations concerning the export of high technology to CIS countries which affect Sun, although the majority of its product line, the Sparcstation 2 and below, is more or less de-controlled. The export of superscalar technologies, including Sparcstation 10s and SparcCentre 2000 multiprocessors, is still problematic, though not unsurmountable.

Software project

Once installed, Hall intends to kick start a project which will encourage the development of software in CIS for the general Sun user community. Applications can be given exposure via Sun's CD-ROM-based software catalogue distribution scheme. The idea, says Hall, is to identify niche application areas not already being served by Sun software partners and encourage CIS developers to exploit those opportunities. For example, at least some of the 50,000-odd Sun users in the telecomms sector could do with more advanced network management tools, he says, claiming there are already a couple of initiatives underway. Local expertise includes financial and networking software.

CAD/CAM

The CIS unit also hopes to exploit the need for new or additional CAD/CAM systems and software. It will work initially from a base of existing systems and CAD/CAM standards established by the former Soviet Union which were exported to the republics and East European satellites. As in the West, Sun will also leverage scientific and technical sales from its exposure in academic institutions - it has a number of existing joint venture projects and agreements with Russian scientific and research centres. Hall already claims to have customers downsizing from mainframes to client/server solutions based on personal computers and Suns using SunSelect's PC-NFS mechanism to migrate data. He says there is a Sun-based banking network linking St Petersburg, Tumin and Moscow up and running with an electronic fund transfer link to the US, 40 Sparcstations at the Dubna Joint Institute for Research and a dozen running ComputerVision CAD/CAM software down in Taginrog at an engineering firm whose name in English means Red Boilermaker.

Cyrillic keyboard

Sun has some 500 machines installed across CIS - the new operation will start life with 12 distributors and 10 value-added resellers. Four Moscow-based distributors include ArguSoft and 4i Datost - the latter also a ComputerVision reseller with a second outlet in Kiev, Ukraine. There are two in St Petersburg, one each in Novosibirsk, Tumin, Minsk and Alma Ata and one under negotiation in Azerbaijan. Hall expects 50% of Sun CIS business to come from Moscow and its surrounds. Cyrillic versions of Western applications available for Sun users include FrameMaker, accounting, CAD/CAM and CAM and banking packages - there is some locally developed software around too and Sun has got development kits of Cyrillic alphabet system software out now. It will show a Cyrillic keyboard at the Moscow ComTech show on April 27. Sun CIS will be up on SWAN, Sun's internal worldwide area network, which now has some 22,000 nodes.

SUNSOFT BOSS URGES COMMON UNIX SPECS

SunSoft Inc president Ed Zander, speaking at the recent Unix International members meeting in New Orleans that was closed to the press, reportedly issued a call to arms against Microsoft Corp, making a strong plea for the industry to come together and adopt common interface specifications and common marketing programmes. Apparently he suggested that the common Unix brand and the common interface specification be owned by the industry as represented by Unix International. Of course that would have to mean Open Software Foundation founders Hewlett-Packard Co, Digital Equipment Corp and IBM Corp taking part. Our spies tell us HP and DEC would have come to the UI meeting if they weren't so afraid to being found out. IBM unfortunately didn't respond to the invitation.

...AS SUN AND ADOBE FORGE CLOSER LINKS

Sun Microsystems Inc is negotiating with Adobe Systems Inc on how to provide a tighter interconnection between PostScript and Sun's XGL and XIL graphics and imaging application programming interfaces, Sun officials said in a presentation at the Micad '93 show in Paris. In a progress report on Sun's year-old Open Graphics Initiative, Doug Schiff, international director for the programme, said all of Adobe's products would be available for Sun Sparcsystems by the autumn, but that the two companies were still working out the details of providing PostScript as a "foundation library" for developers on Sparc kit.

SQL ACCESS GROUP SEEKS SUPPORTERS, NOT NEW TECHNOLOGY

For the next two years, the SQL Access Group (SAG) will focus its efforts on getting the market to accept its SQL standard specifications - the Call-Level Interface and Formats and Protocols - and not on technology development, it says. According to SAG, current specification development for technology enhancements will continue, but new technology projects have been put on hold for at least 18 months to two years. This year the organisation will unveil programmes for distributing copies of its SQL specifications and evaluating vendor products for conformance. A vendor technology reference programme for product testing will be introduced by year end and SAG will embark on a sales campaign for the specifications. Other SAG goals for this year include increasing European membership and establishing a user council. It will also introduce a version of the ISO Remote Database Access standard that runs over TCP/IP this spring. The current SAG version only interoperates with OSI protocols.

ACER AIMS AT VACATED MINICOMPUTER SPACE

Acer America Corporation, which really wants to be a player in the reconstituted "minicomputer" market, will be busy this week shoring up its defences at the low end. It will be introducing three fully integrated pre-loaded platforms it believes will set a new price/performance standard in the one-to-24 user Santa Cruz Operation Inc Unix marketplace. The boxes will start as low as \$3,325. All are based on the personal computer technology Acer introduced last quarter, reportedly architected from the start to support Unix. They include the EISA-based 50MHz 486DX2 1700 and 66MHz 486DX2 3500, based on the AcerPower 486e system. The 1700, priced at \$3,941, includes 128Kb of level-2 cache and a 210Mb drive. The \$5,595 3500 includes 256Kb level-2 cache and a 520Mb SCSI drive. The very low-end 900 is based on Acer's popular 33MHz 486DX Acros ISA PC with 64Kb level-2 cache, support for a Weitek 4167 math co-processor and 210Mb IDE drive. All feature 8Mb RAM, expandable to 64Mb. They will come pre-loaded with the Altos/SCO System V/386 3.2 version 4.1 introduced this month and enhanced to include greater reliability under heavy user loads, autoconfig, a multi-volume back-up utility and disk performance improvements. Packaged in two configurations and one upgrade option, it will allow users to choose between feature sets. The base will cost \$1,300 and the advanced for \$1,650. Upgrades will go for \$700.

APPLIX PREPARES ARCADE RAD PACKAGE FOR UNIFORM

Applix Inc, the Westboro, Massachusetts-based office software company, is ready to launch a new rapid applications development environment at the UniForum trade show next month. Arcade, expected to include an applications builder, object editor and browser and SQL links to the big four databases, will share the stage with Asterix 3.0, the latest version of the company's integrated office automation suite, currently out on beta test at a number of customer sites. The product includes a major extension to the scripting language capabilities of Asterix that allow the product to be customised for specific customer needs. Asterix has been ported to UnixWare, and will also announce full support for Hewlett-Packard's OpenMail at UniForum. Richard Davis, Applix executive vice president, said that the company had a separate development team working on Microsoft NT, but would not release anything until customers started asking for it. Applix has now established offices in the UK at Reading in Berkshire, and a French office in Paris. A German office, in Frankfurt or Munich, is also planned. The company, which is challenging the dominance of Uniplex in the Unix office package market, is looking for European VARs and is expanding its staff.

UNISYS TO LAUNCH TIVOLI DISTRIBUTED SYSTEMS SOFTWARE MID-YEAR

Unisys Corp will release Distributed Systems Management products based on the Unix System Labs/Tivoli Systems Inc framework in mid-1993, according to Unisys spokesman Joe Brown, speaking to European journalists in Nice last week. Unisys will add its own management applications to the framework, including critical resource management and software distribution modules, which will be passed on to other Tivoli users, such as Pyramid and Tendem, through Unix System Labs (UX No 409). The Open Software Foundation's Distributed Computing Environment (DCE), will be added as part of the environment towards the end of the year. Other announcements forthcoming from Unisys include the expected desktop system configured for Univel Inc's UnixWare, due for announcement by the end of this month and shipment in April. Based on the recently announced Unisys PC range (UX No 420), it will include on-board Ethernet, enhanced SCSI and graphics capabilities. The first systems using Unix V.4-compatible micro-kernel operating systems technology from Chorus Systemes SA (UX No 406) could also emerge this year: in Japan, auto manufacturer Toyota is already running the software, but on Motorola 88000-based systems unlikely to appear anywhere else in the world. Unisys has set in place its Colleagues developers programme, offering development and porting support to independent software vendors, plans to begin software distribution via compact disks during the second quarter, and will introduce network licensing software from Gradient Technologies Inc. Once saddled with a seemingly insurmountable debt of \$4 billion in 1989, Unisys has now reduced that figure to a manageable \$1.6 billion, and recently announced its fifth consecutive profitable quarter.

INFERENCE HAS APPLICATION DEVELOPMENT SOFTWARE FOR 10 PLATFORMS

Inference Corp is developing what it calls an integrated multi-platform tool for building enterprise-wide applications. Art*Enterprise, currently in beta for Windows, will eventually support more than 10 major platforms including NT, Macintosh, OS/2, MVS and Unix from Sun, HP, IBM, DEC and NCR. The object-oriented software is targeted at companies that are rightsizing into client/server and distributed computing environments and re-engineering their processes. Described as an upward compatible extension of the company's Automated Reasoning Tool for Information Management (ART-IM), it offers access to reusable graphical user interface class libraries, data modeling capabilities, intelligent processing technologies and automated integration with legacy systems and data. Pricing will start at \$7,000 depending on the platform.

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Digital Equipment Corp watcher Terry Shannon says an unnamed third-party software developer is thinking about porting **IBM Corp's** MVS operating system to the Alpha AXP platform.

DEC buried a little zinger in its "Unified Unix" briefing papers from 10 days ago: "Given the recent plans for Novell Inc to acquire Unix System Laboratories," it writes, "Digital believes OSF/1 is the only true open Unix technology in existence."

BusinessWeek claims **Compaq Computer Corp** and its 80486 interests, not any technical or manufacturing woes, are behind **Intel Corp's** decision to delay the Pentium until May (UX No 423). Well, schucks, that's not what we hear. Our sources, who are cooling their heels waiting for chips, continue to think Intel is having problems making the parts. Given the new timetable, it still say samples should be more available than they are.

Novell Inc's BrainShare '93 get-together in Utah March 22- 26 is promising to come up with answers to questions like "Can Microsoft Corp NT and NetWare co-exist?" "What exactly is Novell's Unix strategy?" and "What is Novell's vision of distributed computing?" John Landry of **Lotus Development Corp**, Philippe Kahn of **Borland International Inc** and John Sculley of **Apple Computer Inc** are also speaking.

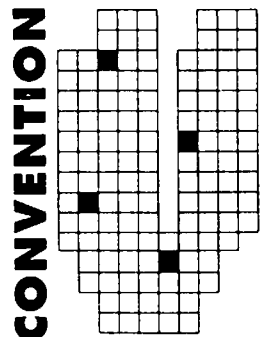
We have always said that it is not for nothing that the Unix prompts are dollar and percentage signs. At last somebody out there has the common sense to recognise that fact too. The new **Unix Reseller Show**, set for May 4-6 in Dallas, is blatantly promoting itself with the slogan "How To Make Money With Unix." If that doesn't bring them in, nothing will.

IBM will seek formal X/Open XPG4 base branding for a future release of the OS/400 operating system.

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The **Mips Technologies Inc** arm of **Silicon Graphics Inc** is discussing the licensed production of R3000 RISC processors in Russia, according to the *Business World* newspaper in Moscow. Mips already has a joint venture called Silikon in Zelenograd, near Moscow. No-one at the Zeleograd plant was available to comment on the report.

Sycomore SA, the Paris-based services and consultancy company founded a year ago to specialise in open systems, will distribute software tools from **Tivoli Systems Inc** of Austin, Texas on the French market. Founded by Jacques Stern, former chief executive of Groupe Bull, and Bruno Fontaine, former Unix product line manager at Bull, Sycomore will distribute, support and maintain Tivoli's line of system administration products - the Tivoli Framework system and its client tools, Tivoli/Works, Tivoli/Courier and Tivoli/Sentry (UX No 368).

Sources say **Novell Inc** has already sent scouts to David Tory at the **Open Software Foundation** with the message that it could not possibly sell Unix with Motif at the kind of price OSF charges for a licence: it says OSF is now doing its sums.

The **Galileo** group of end users and system integrators pushing for a common graphical front-end on different types of computers are to meet during the **Uniforum** show in San Francisco next month: a couple of the **Baby Bells** and **Mitre Corp** are said to be latest converts to the cause (UX Nos 415, 423).

A common application environment for a range of desktop interfaces, including Open Look, Motif, X.desktop, HP VUE and OS/2 is due at **Uniforum** next month (UX No 423): at the very least it will include specifications allowing independent software vendors to develop applications with features - such as install procedures - that are recognised and handled accordingly by each of the front-ends.

NEC Corp is to sample its low power VRX Mips R4000 derivative by year-end (UX No 377): a 100MHz R4000 implementation is also planned for 1993.

Unix Expo had an independent survey taken and found that its 1992 attendees represent a hefty \$10 billion in purchasing power for Unix and open systems. Networking is its strategic focus.

Thinking in some quarters is that **Intel Corp's** Pentium, if and when it does arrive, will be priced at \$795 for the 60MHz species and \$995 for the 66MHz.

Sun Microsystems Inc has denied that it has plans to develop a Sparc port of **Microsoft Corp's** NT operating system, as reported last week in the US paper *Open Systems Today*. The paper quoted Sun president Scott McNealy as saying "NT needs to be ported to Sparc. If they [Microsoft] don't do it, they are missing the boat". Despite the denials, observers hint darkly that some sort of effort involving Sparc and Microsoft is underway, and will come to the surface over the next few months.

X/Open Co Ltd has picked one of DEC's key transaction processing technologies as part of its standard for distributed transaction processing. X/Open has licensed the company's Remote Task Invocation (RTI) technology, a protocol for implementing remote procedure calls developed for the Multivendor Integration Architecture consortium. It is the basis of the Transactional Remote Procedure Call (TxRPC) X/Open released last week (UX No 423). RTI unites OSI/TP and Open Software Foundation's Distributed Computing Environment.

That **Fiber Channel Systems Initiative** to standardise high-speed fiber channel interconnects (UX No 414) will go public this week: apparently **IBM** and **HP** have managed to get **Sun** involved.

JSB Corporation, Scotts Valley, California last week announced **MultiView Desktop** for **Microsoft Corp's** Windows NT with a view to helping the Microsoft challenger co-exist with Unix. The company says the product removes the potential for conflict by enabling users to run their existing Unix applications integrated with NT's presentation capabilities perserving Unix as the central server.

Microsoft Corp's chief hatchetman Steve Ballmer has been telling people Windows NT will be available in May. Meanwhile, Cairo is now apparently being referred to as NT Version 2.

The Windows interface looks to be as prolific as a Star Trek tribble: we hear **Microsoft Corp** is working with phone companies to embed Windows engines in dataphones.

The **Open Software Foundation** is trying to figure out how to import object orientation into its Distributed Computing Environment, but is having trouble getting a handle on it though part of its problem is thought to be attitudinal. It desparately needs an architectural and communications model. It's been doing a lot of talking with the **Object Management Group** but it's reportedly still just that, talk.

After 10 months as **Applix Inc** vice president of marketing, DJ Long, up and quit last week citing philosophical differences with management.

Marie Burch, who back in the old days jumped ship from the forerunner **Unix System Labs** to join the then-enemy **Open Software Foundation** as director, business area management, was one of those cut in OSF's recent reshuffle (UX No 423).

Intel is reportedly planning power-boosting Overdrive processors for the Pentium.

Our eyes are going: we printed **Freedman Sharp and Associates'** fax number rather than its phone number. Try +1 403 228 1643 in Canada for its network load balancer. We also gave a wrong number for **Parallax**: its 408 727 2220 and the company is in Santa Clara, California, not in New York.

Did anyone notice that the president of the **Object Management Group** wrote an open letter urging people to ask Microsoft Corp to have OLE adhere to OMG standards?

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IXI AGREES TO SELL OUT TO SANTA CRUZ OPERATION

After the Cambridge, UK company had been pursued by a couple of unwanted suitors, Santa Cruz Operation Inc last week stepped in and took high-flying IXI Ltd out of the loop. No cash changed hands and the friendly acquisition was completed via a stock swap arrangement between the two privately held firms under US accounting rules. Marriage between Unix-on-Intel house Santa Cruz and the British graphical front-end specialist was supported by all shareholders on both sides - including SCO board member Microsoft Corp - and blessed by IX OEMs which include Compagnie des Machines Bull SA, Digital Equipment Corp, IBM Corp, ICL Plc, NCR Corp, NEC Corp and Unisys Corp. Observers see the acquisition as a logical match, and - following Novell Inc's planned acquisition of Unix System Labs - evidence of further consolidation in the Unix industry, this time around the desktop. IXI will remain intact as an SCO subsidiary, and is to take over some responsibility for the development of Open Desktop - SCO's graphical operating system bundle which has yet to deliver in the manner promised. IXI is expected to use other SCO technologies for new groupware and tools that will roll into its pervasive Motif-based X.desktop manager, of which 250,000 users are claimed. Sources close to the deal say SCO is now expected to do versions of its iAPX-86 software for RISC architectures so it can compete on corporate accounts which demand Unix for RISC systems and Microsoft Corp software on Intel Corp boxes. IXI's international offices in San Ramon, California; Minneapolis, Minnesota; and Tokyo, will remain in place, though the upstate San Ramon unit may be collapsed into SCO's San Francisco sales operation. Full details of the transaction were not disclosed, but IXI shareholders, which include a number of employees, plus investors like Tomen Electronics Co in Japan and Hermann Hauser, have exchanged their holdings for newly-issued Santa Cruz common stock.

Floatation

IXI founder and chairman, Ray Anderson, who owns just less than half of all IXI shares covertly his holding to a "significant" stake in SCO and takes a vice president post at the company, reporting directly to recently appointed SCO boss, Lars Turndal. Anderson remains managing director of IXI and gets a position on SCO's new management committee, whilst Turndal and other SCO executives take seats on the IXI board. "IXI will add more to the value of SCO than the dilution of the shares involved," according to Anderson. And, in a clear reference to SCO's well-publicised drive towards a floatation in the US, he said the acquisition will provide "a faster route to liquidity for IXI shareholders." Five-year-old IXI, with 50 employees, turned over £3.5m (\$6m) last year and has a healthy £2m in the bank. SCO reported \$160m of business in the year-end to September 30th and has 1,110 staff. IXI said it had been courted by a couple of other Unix suppliers, but decided some months ago to offer itself up to its OEM partner. The deal was finally kicked into life by Turndal, who on his appointment said SCO would be looking to acquire additional system software technologies and utilities from outside (UX No 420). Insiders say the issue of new SCO stock will not dilute existing shareholdings significantly: former president Larry Michels has 16%, his son and current chief technology officer Doug, holds 20%, Microsoft has 16%, employees own 22% and other investors have 26%.

UNIX SUPPLIERS TEAM ON COMMON DESKTOP FEATURES

The spectre of the ubiquity of the Microsoft Windows interface is pushing a lot of big names like IBM Corp, Hewlett-Packard Co, Digital Equipment Corp, Santa Cruz Operation Inc, SunSoft Inc, Novell Inc and Unix System Labs toward standardising on some common look-and-feel features for Unix. Their joint efforts will be known collectively as CDE, the Common Desktop Environment. As reported briefly (UX No 423), initial agreement is expected to establish a standard for installing Unix software from within graphical user interfaces. The X/Open Co Ltd-compliant specification, known as the Distributed Format for Desktop Architecture, DFDA, and contributed by IXI Ltd, will provide a standard set of techniques for independent software vendors to write to, allowing users to get Unix applications up and running from an install icon within a variety of graphical environments without resort to shell commands. With the support of IBM and HP now apparently secure - despite their other endeavours, see below - an announcement is expected at the Uniforum show in a couple of weeks time.

IBM AND HP "WORK ON COMMON INTERFACE" - HP "OFFERED 20% OF TALIGENT"

Latest gossip has IBM Corp and Hewlett-Packard Co working on a separate agenda for desktop Unix using IBM's Common User Access specification and dubbed COSI, or common operating system interface (UX No 424). Other Unix suppliers are said to be treating the IBM/HP effort very cautiously - some are worried that it may turn out to be a trojan horse for proprietary technologies (UX No 423). The suggestion is that COSI will pick up on the work of Taligent Inc, the object-oriented operating software joint venture between IBM and Apple Computer Inc. However, sources say IBM has been making Taligent's life a misery lately, by insisting that Taligent use its Distributed System Object Model - a general purpose mechanism for communicating between objects based upon the OS/2 2.0 workplace shell, also up on AIX (UX No 423). The technology is regarded as regressive by Taligent staff, and IBM's insistence reportedly convinced several key employees to quit. However, as recently as last week, IBM is said to have realised that its shell technology does not comply with the Object Management Group CORBA specifications and has been urging HP to throw its OMG-compliant Distributed Object Management Facility into the pot. DOMF is HP's object technology which grew out of its joint software development project with Sun Microsystems Inc, and which seems to have gone very cool of late (UX No 423). More interestingly, sources say that HP is currently weighing a 20% stake in Taligent to cement the new relationship, while IBM brass have been meeting with HP officials at various locations around the US over the last few days firefighting for their support.

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**WELCOME TO THE NEW WORLD ORDER
AS THE PRETENDERS LINE UP TO FIGHT FOR IBM'S CROWN**

by Tim Palmer

With Hewlett-Packard Co heading for \$18,800m turnover this year and Fujitsu Ltd at around the \$26,000m mark, while Digital Equipment Corp looks hopefully to Alpha to rocket it off its \$14,000m-a-year launchpad, the contenders to take over leadership of the mainstream computer industry from IBM Corp are lining up - and a major new round of mergers and acquisitions could be on the way.

Until the last couple of years, Fujitsu looked the most likely company to catch IBM up in terms of size and reach, but the company is now beset by all the problems that assail IBM, led by an over-dependence on mainframes. In the mid-range, its key products are derivative, coming from its ICL Plc affiliate and Sun Microsystems Inc, while in personal computers it is an also-ran in Japan, not visible in the US, and only a significant player in Europe by proxy via ICL. Its strongest American card is its 44% stake in Amdahl Corp, and while IBM appears to be playing into Amdahl's hands in the short term, Amdahl knows it has to build a big new business almost from scratch out of Unix and its Huron applications development and delivery environment if it is to grow much beyond its present \$2,500m or so annual business. Nor is Fujitsu in any position to improve its position with another acquisition - its balance sheet is too stretched and it can't use its shares - too few US investors would want to hold them.

Loser

Hewlett-Packard currently looks by far the best placed of the biggest manufacturers to come out as the winner in the 1990s - but then three or four years ago, that was being said about DEC. At present, everything that Hewlett-Packard is doing looks right: it has won itself a reputation of taking better care of its customers, an example being the way it is not forcing its MPE users to move to Unix, instead letting them migrate at their own pace. In Unix, it has succeeded in creating the impression that it has far more of the management, security and support capabilities in place than any of its competitors, and while this may not be entirely valid, time and again in the computer industry, winning the perception is nine tenths of the battle: in the 1970s, it was universally acknowledged among the cognoscenti that Burroughs Corp had by far the best mainframe architecture and operating software, but that did nothing to prevent the vast majority of its users migrating to IBM over time. IBM was perceived as the winner, just as today, even the things it does right are in trouble because IBM is perceived as the industry's most emphatic loser, and more and more people are talking seriously about the company being in danger of going the same way as Prime Computer Inc, Wang Laboratories Inc and Control Data Corp. And Hewlett-Packard, with its laser printers, has demonstrated that it still has the ability to build a major business from scratch, and its OEM disk drive business, although not very visible, is treated with respect by its competitors. Because all of DEC's business is computer-related, it remains slightly bigger than Hewlett-Packard in computers - Hewlett has its medical electronics and instruments businesses as well, but computers are becoming more and more dominant with every year. The case of DEC is tantalising: either the Alpha will do for the company what the VAX 8600 - quickly supplanted by the VAX 8650 - did for it in the 1980s, and the vast installed base of VAX machines will be replaced by Alpha AXPs, giving the company three years of fantastic growth that propel it to \$25,000m, or the desperately late Alpha and the new OpenVMS will turn out to have too many bugs and glitches to be trusted, in which case, DEC will be trotting off after IBM.

There is an assumption behind all this that size does matter, which seems to be belied by the fact that IBM's enormous \$60,000m a year bulk has been unable to save the company - but IBM's problems all arise from the fact that the company's business is so hopelessly skewed to one sector of the market, with products that fewer and fewer people are going to be happy to own.

IBM's personal computers business may be enormous, but it has never made very much money, and it is now more like a millstone than an asset. The company has only two attractive businesses now, the AS/400 at \$14,000m or so a year, and the RS/6000, at barely \$2,000m - which means that in the rankings above, the truly viable computer businesses of IBM lie between Hewlett-Packard and DEC. Economies of scale mean that size does still matter: to succeed, companies have to grow while constantly guarding against building the sclerotic bureaucracy that bolsters a sense of infallibility that was IBM's ultimate downfall. And Hewlett-Packard has shown itself willing to make regular infilling acquisitions as it has grown - the company was heavily castigated for the price it paid for Apollo Computer Inc, but without Apollo, it would not be in anything like such a strong position today. The two other big diversified computer companies are Unisys Corp at \$8,400m or so, and NCR Corp at \$7,100m - only the same size as Apple Computer Inc, a pure personal computer play with few designs on the data centre - and if AT&T Co is really serious about making it big in the computer industry, it will soon have to start thinking of buying NCR a present - and Unisys begins to look tempting now that James Unruh has finally got the company onto an even keel and Unisys' own mainframe millstones under control. NCR and Unisys are both following the same Intel Corp with everything Unix strategy, and Unisys' strong position in banking and reservations would provide new outlets for NCR's strengths in special purpose terminals. Shareholders in Unisys have been through so much misery, the fear that the IBM mainframe blight will soon infect the company is so great that no reasonable offer for the company is likely to be refused - and while the Unisys debt burden is now manageable, it is still onerous for a company of Unisys' size, but AT&T's credit remains almost as good as gold. The main fact that would make AT&T look twice is that it would not likely play well with its own shareholders in the short term.

Crazy

Compagnie des Machines Bull SA is in such a bad way that only the determination of the French state keeps it alive, and Ing C Olivetti & Co SpA is not much healthier. One company that could still make an impact on the world computer market is Siemens-Nixdorf Informationssysteme AG - but only if Siemens is serious about remaining - outside Germany - a force in the computer industry. Siemens Nixdorf is in as bad a way as IBM, and only a couple of years behind Bull, and that simply because the German public sector still hasn't realised it's crazy to pay \$50,000 or more per MIPS for computing power. The depth of the recession facing Germany means that the boom must fall soon, and then about the only way for Siemens to save the company will be to make a major acquisition that finally puts it onto the world stage. Companies like Sequent Computer Systems Corp and Pyramid Technology Corp are technologically compatible - but painfully small to make much difference, which suggests that a bold move for another technologically compatible company - with a nice sideline fit in telecommunications - Tandem Computers Inc, is the smallest acquisition that would make a real difference - but it's hard to see cautious Siemens being that bold. Welcome to the New World Order.

NETWISE CLOSES EUROPEAN SALES OFFICES

Remote procedure call technology firm, Netwise Inc is retreating to its home base in Boulder, Colorado. It closed its European sales offices last week because, according to sources, "of lack of interest from end-users and few takers for the [RPC Toolkit] early adoption programme". Netwise's RPC Toolkit is OEMed by the likes of Sun Microsystems Inc, Hewlett-Packard Co and Unix System Labs. Netwise's latest crisis comes just a year after its then UK subsidiary, Netwise International Ltd, went into liquidation owing substantial amounts to both the parent organisation and other creditors. It re-appeared a few weeks later as Netwise UK Ltd, in what some creditors argued at the time was "an apparent breach of Section 312 of the UK Insolvency Act of 1986," (UX No 375). The new Netwise UK Ltd subsequently formed other direct sales operations around Europe, including Netwise Europe BV in Naarden, Netherlands, and offices in France and Germany. Netwise's European general manager, Rob Rietveld, said last week "this was an error of judgement by the company. Netwise thought direct sales would increase by expanding into potential geographical markets. We also over estimated the interest in our early adopters programme." Netwise Inc financed the European subsidiaries with \$8.5m raised via a third round of venture capital funding last August. Reportedly, Netwise could not afford to continue financing the European effort once the cash had dried up. The twelve staff employed in European offices have been made redundant. Netwise says its US operations remain open and describes its financial health as "fairly stable." Netwise is now setting up indirect channels across Europe, using a chain of independent software developers and VARs. The firm will support existing European customers from Boulder.

DEC WILL PHASE OUT MANUFACTURING IN GALWAY AT COST OF 780 JOBS

As always seemed likely, despite the frenzied last ditch efforts of the Irish lobby, Digital Equipment Corp has decided that it is the Galway plant that must close, with the loss of 780 jobs. The company is softening the blow a little by retaining the Galway research and development operation, which employs 350 people. DEC also employs 350 sales and service personnel in Ireland. Irish Employment Minister Ruairi Quinn flew to Boston last weekend for talks with DEC president Robert Palmer in a bid to save the Galway jobs, and Tony O'Reilly, Irish-born chairman of H J Heinz Co, was also rallied to lobby DEC, but to no avail. Manufacturing operations - the plant makes VAX 9000s and VAX 6000s - will be gradually phased out over the next 12 months, with completion expected by February next year.

IBM, HEWLETT-PACKARD RALLY SUN TO THEIR FIBRE CHANNEL INITIATIVE

IBM Corp and Hewlett-Packard Co promised back in December that they would formally unveil their Fibre Channel Systems Initiative "in six to eight weeks" and that all the major workstation companies had signed up (UX Nos 414, 424). They duly unveiled the initiative last week, but the only name they were able to add to their own was that of Sun Microsystems Computer Corp. The aim of the initiative is to agree a standard for 1Gbps communication over fibre optic cable between workstation and workstation, workstation and peripherals, workstation and outside services and peripheral to peripheral, starting out by working on high-speed communication between applications running on multiple workstations from more than one vendor. The aim of this is to use the Fibre Channel to share the processing of complex applications, such as stock market analyses among clustered computers - effectively providing a physical layer to underlie the Distributed Computing Environment. Another application mentioned is the instant transmission by doctors of large data files containing diagnostic images to other offices. IBM and Hewlett-Packard aim in the medium term to hand over work from the Initiative to an FC/Open consortium. The Initiative will propose selected sets of Fibre Channel options called profiles to be made available to the industry as a basis for building products. The profiles in turn will be based on the proposed Fibre Channel Interconnect standard in public review under the guidelines of the American National Standards Institute.

HYPERSCALAR RIOS 2 SET FOR SUMMER

IBM Corp is ready with a new generation of its Rios RISC, the RIOS 2 for June or July launch, which will be able to execute as many as six instructions per clock cycle, US reports say. It doubles up branch and conditional registers and integer and floating point units and a version of the PowerPC, derived from the design, is expected to execute up to four instructions per cycle, although whether those kinds of superscalar performances can often be achieved in practice will depend on how well the compilers are optimised for the new internal architecture. One version of Rios 2 apparently combines nine separate chips on a substrate 4" square. The technology used in the RIOS 2 three-chip chipset - which IBM will use in upcoming Power Parallel machines (UX No 422) - should re-establish IBM as the performance leader, says *The Microprocessor Report*, which estimates the thing will fetch around 100 SPECint92. Floating point performance could reach 250 SPECfp92, exceeding even Silicon Graphics Inc forthcoming TFP part, it notes. First system shipments are due around the third quarter.

...AS IBM GOES PUBLIC ON PLANS TO BUILD FUTURE AS/400s AROUND POWERPC

IBM Corp has been muttering about migrating to RISC technology for the AS/400 processor for a year or so now, and the company is now talking openly about it, saying that the AS/400 will move to a RISC, but not until several criteria are met. That comes from Keith Slack, director of systems development hardware and technology for IBM's Application Business Systems division, speaking at the Paris launch of the new RS/6000s. Shipping a RISC-based AS/400 will require a 64-bit architecture - the AS/400 CPU is a 48-bit device, appropriate commercial extensions to that architecture, reliable, high-performance multiprocessors, and changes to the AS/400 operating system to migrate to RISC transparently to the user, Slack said. IBM should soon have its own 64-bit RISC architecture with the 620 PowerPC chip, Slack added. Said John Thompson, IBM vice-president and Application Business Systems general manager, "We will implement RISC [on the AS/400], but not until it catches up with the AS/400 architecture, which we think is more advanced... and until we can do it in a way that won't disrupt the customer's applications." The new AS/400s of course already use Intel Corp's 80960 RISC processor in their input-output subsystems, Slack noted.

HP's NEXT RISC INCLUDES FULL MOTION VIDEO

The low-cost 7100LC version of the Precision Architecture RISC that Hewlett-Packard Co is developing is generating growing excitement, and could give the company a significant edge in winning space on the desktop of the future. According to *Computer Reseller News* it will incorporate parts of both the Motion Picture and the Joint Photographic Experts Groups algorithms, rendering it capable of running video at 30 frames a second without additional hardware. It will also handle both little and big endian byte ordering so as to be able to run personal computer operating systems such as Windows NT as well as Unix, although the company denied that it had any plans to support NT on it - the capability is simply there if anyone wants it in the future, the company said. The part, due to start appearing in products next year, will be clocked at 60MHz and will include on-chip cache controller and new graphics instructions.

INTEL'S NI1000 CHIP HOLDS PROSPECT OF COMMERCIAL NEURAL NETWORKS

If neural networks are ever to become more than a lab curiosity with the odd exotic application in the real world, Intel Corp's new Ni1000 chip, developed with Providence, Rhode Island-based Nestor Inc should provide the breakthrough. In contrast to Intel's first neural network chip, the 80170NX, which had an analogue design, the Ni1000 is all digital, and integrates 1,024 neurons with a large block of Flash memory for storing learned patterns on-chip and a 16-bit microcontroller to handle the learning application. It has a standard microprocessor bus interface, and is claimed to execute 20G-operations per second, so that it can recognise thousands of text characters a second compared with 10 to 100 per second for a personal computer running character recognition software. The Ni1000 can be combined with a personal computer for fast character recognition, Intel says. It was developed with grants of \$1.2m from the Defense Advanced Research Projects Agency, \$400,000 from the US Office of Naval Research. It is sampling now; no prices.

THREAT OF NT "NOT ENOUGH" FOR UNITY

One of the companies involved in what can only be described as the latest round of unity talks that Unix International seems to be sponsoring (UX No 423, 424) says that for all the fear, uncertainty and doubt unleashed by Microsoft Corp, the project still lacks the compulsion that galvanized the industry to form the Open Software Foundation five years ago. It needs that extra-special final bit of stimulation. The company says one of the points at issue in the unity talks is support of Unix SVR4 ES/MP. What it believes is needed is the leadership of SunSoft Inc throwing its weight behind ES/MP.

OSF OPENS LABS FOR INTEROPERABILITY TESTING

Now pursuing a wider marketing brief to boost its coffers, the Open Software Foundation has opened up labs at its Cambridge, Massachusetts-based headquarters as an interoperability testing site. Initially focused on Distributed Computing Environment interoperability testing - apparently much needed (UX No) - OSF says the Interoperability Lab replicates end-user environments and provides for real-world testing and verification. The Lab has eleven machines from six vendors available for use, including HP-UX on PA-RISC, DEC OSF/1 on Alpha AXP, SInix and Unix SVR4 on Siemens Nixdorf Intel boxes, Solaris and SunOS on Sun Sparc systems, IBM RS/6000s running AIX3.2 and Mips-based DECstations with OSF/1 plus Transarc Corp on-line transaction processing and Gradient Technologies network licencing software. +1 617 621 7300

...APPOINTS NEW TECHNOLOGY CHIEFS

The Open Software Foundation's recent wrestling with its internal structure (UX No 423), reportedly a product of its continuing financial angst, has created a reorganisation that separates OSF/1, the operating system that brought it into existence, from the other technologies it has put its name to. OSF/1 is now off on its own under vice president, engineering Roger Gourd who has added the title of vice president/corporate planning to his chevrons. As such, he reports to president David Tory. The organisation's other technologies - the Distributed Computing and Management Environments and Motif - are now parts of a unit under a newly created vice president, interoperability Jeanette Horan who had been director of Motif and OSF/1 engineering. Both engineering and marketing functions, the latter known around the non-profit OSF as business area management, have been brought together under the new structure. Reportedly OSF is motivated in setting things up like this to see the technologies can stand on their own. The OSF Research Company, which does advanced development like the microkernel, is apparently unscathed because it operates on a different funding model. The consortium is breaking out education, customer support, computer facilities, corporate communications and sales. These functions will support all the others. The office of chief operating officer that OSF created a few months ago has been abolished. The incumbent is now off in hot pursuit of government funding for the much-enlarged interoperability lab, see above.

NOVELL TAKES GRADIENT LICENSING SOFTWARE

Novell and Gradient Technologies have cut a strategic deal that will put Gradient's standard-setting software licensing technology on NetWare. Beside an Electronic Software Licensing (ESL) NetWare Loadable Module (NLM), the partners will deliver tools providing access to ESL services that licence-enabled NetWare applications can be built on. They expect to co-develop a significantly enhanced version of Gradient's NetLS license server technology, part of its iFor/LS suite, in a NLM optimised for NetWare 3.x and 4.x. It will be transport-independent to support emerging comms protocols. Availability is expected in this year. NetLS software developer kit are due in the third quarter. Pricing has not been set.

VISUAL EDGE HAS NEW UIM/X RELEASE

Montreal, Canada-based Visual Edge Software Ltd will introduce version 2.5 of its UIM/X Motif graphical user interface (GUI) builder in May, priced at from \$5,000. Enhancements to the new release include the ability to build GUI object classes which comply with the Object Management Group's CORBA C application programming interface specification. The tool which now supports Motif 2.1 will also generate C++ GUI objects. UIM/X OEMs include Control Data, DEC, IBM, Silicon Graphics, Data General, HP and Motorola - distributors are Astec in Japan; It Connexions, Australia; Patzschke and Rasp, Germany; Uniras, Europe; Metavision, France; Protek, Europe; Choreo Systems, Canada; Bluestone Consulting and Black & White Software, US. +1 514 332 6430.

SUN FRANCE FORMS CLUB OF USERS INTERESTED IN DOWNSIZING

To study the benefits of downsizing a corporate information system, Sun Microsystems France has set up a "club de reflexion" of approximately 40 French directors of information technology, says Eric Saillard, manager of rightsizing marketing at Sun's French subsidiary. The club is an outgrowth of a downsizing market study undertaken for Sun France last November by Paris-based market research specialist Whatever. The study of 90 French enterprises, of which 70% were not Sun clients, determined that the majority, 79%, of the respondents see a major evolution in their computing architecture. Of those that responded "oui", the top three evolutive choices were, in order of preference: establishing a new client-server architecture; converting applications for dedicated servers; and interconnecting networks.

Collaboration

"The idea is to bring these management information systems directors together and have them discuss how they judge the profitability of a new computing architecture and to talk about the results they may have had from rightsizing changes," Saillard says. "We want to try to model the economies that can be realised from downsizing by studying particular cases." Only between 10% and 20% of the club's participants are Sun clients, Saillard says. It is scheduled to meet on April 15, after which it will continue to meet either as a whole group or in subcommittees, "according to the desires of the group," he said. Saillard says the results of the group's study would be used first by the participants and then by Sun. "It's a collaboration between Sun and the directors," he said. Of the study, Saillard says the most important results were those that showed users' preferences for client-server architecture, dedicated application servers and interconnected networks. "It aligns exactly to our strategy. We are the defender of client-server architecture, and installing dedicated servers under Unix is our way of attacking the mainframe," he said. Sun France did not choose the survey subjects, he added. "We wanted a realistic study. To have polled Sun clients would not have been realistic," Saillard commented - "We gave Whatever a list of 500 names and they chose from that."

McNEALY SUNBEAMS

Sun Microsystems Inc chief executive officer, Scott McNealy, says he's sick and tired of the press Intel Corp's getting about chips it can't deliver. Sun too has chips in development - seven of them in fact. So McNealy says he's going to put his people on a road show to compare "vapourchips to vapouchips." Among the ones they're likely to tout are the MicroSparc 2, 3 and 4 they're working on. The current Tsunami run meanwhile is reportedly exceeding expectations in speed and yield.

SunSoft Inc has been secretly working on writing a Microsoft Corp Windows application programming interface in a clean room so Solaris will be able to run a copy of Excel, let's say, that's bought from a high street software shop. Being a man of a few select words, Scott McNealy claims it "works good and runs fast." Logically, it's called WAPI.

Scott McNealy told Wall Street analysts last week that Sun has more 40MHz Vikings than it knows what to do with and that Texas Instruments Inc "could bury" Sun in the chips if it would let it. Actual quantities, which exceed internal expectations of only a month ago, boil down to between 100,000 and 200,000 units a quarter which in turn means that by the end of the current quarter Sun expects to be able to fill all the back orders it has for Model 41 Sparcstation 10s plus the orders they get in the intervening weeks. McNealy also said the hard-won 45MHz and 50MHz versions of the Viking, aka SuperSparc, would be abundant by the end of the second quarter thanks to a third iteration of the masks. Silicon availability has McNealy bragging that Sun will have more multiprocessing servers out by the end of this year than all the rest of the world combined in the history of the world.

McNealy-on-NT: the Sun chief told Wall Street last week that he reckoned "it'll be a long time before information managers start drinking that Kool-Aid."

UNIFY EMPLOYS GALAXY FOR ACCELL OBJECT

Unify Corp, Sacramento, California, is using Galaxy, Visix Software Inc's new object-oriented application programming environment, to build its next generation of software products including Accell/OO, an object version of its 4GL development system. Accell/OO - or whatever it is known as by the time it comes to market - will have full graphical and object-oriented functions, Unify says. Reston, Virginia-based Visix's Galaxy software, introduced last year (UX No 399), enables developers to develop applications across multi-vendor platforms irrespective of operating system or graphical user interface. Galaxy is written in C and C++, provides an application programming interface (API) plus an open software backplane for third party tools to plug in to. According to Unify, Galaxy will "pretty up" Accell's look and feel and allow it to hook into other graphical and non-Unix environments. Galaxy currently supports Motif, Open Look, IBM CUA, X-Windows, the Object Management Group's CORBA specification, Open Software Foundation's Distributed Computing Environment, Sun Microsystems Inc's Open Network Computing environment, Microsoft Corp's Object Linking and Embedding specification and the Apple Computer Inc Mac. Unify, which unveiled a bunch of Accell enhancements last year - including Accell/SQL, a gateway that provides Unix-to-IBM DB/2 access, and Accell/TP, its Tuxedo-based transaction processing 4GL - will begin releasing its object stuff by the end of the year. Unify: +1 916 928 6400. Visix: +1 703 758 8230

APPLE GOES TO THIRD PARTIES FOR POWERPC MACS IN NICHE MARKETS

Apple Computer Inc is apparently negotiating with third party manufacturers - including Radius Inc and DayStar Digital Inc - to develop PowerPC versions of the Macintosh for specific markets, according to *Computer Reseller News*. It says third parties will use the Macintosh Compatibility Module, which allows lets shrink-wrapped Mac applications to run on the Apple/IBM/Motorola PowerOpen/PowerPC system under development. Radius, the paper says, will likely do a multiprocessing PowerPC Mac, whilst DayStar might develop an image processing system.

ONTOS PLANS OBJECT ENHANCEMENTS

Object-oriented software developer, Ontos Inc, Burlington, Massachusetts will introduce integration enhancements for Ontos DB, its object-oriented database and application development environment in September. These include two object-linking Storage Managers - for the Sybase relational database and IBM's IMS mainframe database - a set of front-end application programming interfaces (APIs) and a family of object class libraries developed for the financial trading room market. The Sybase Storage Manager, which uses a C++ API, enables Ontos DB users to hook up with Sybase as a back-end database server (UX No 405). This allows messages sent from the object database to access information stored in the Sybase system. Data requested from the Sybase is encapsulated and fed back to the object environment and can be manipulated, analysed or updated without re-engineering, the firm claims. The Sybase Storage Manager can also be used as a migration tool for re-engineering Sybase applications, or even parts of applications, into object forms, Ontos says. The IMS Storage Manager is configured in the same manner but conforms to IMS protocols and specifications. Both the Storage Managers will be available from September. Pricing details have not been set. Ontos also plans to provide a set of dynamic link library APIs for third party graphical user interfaces. This will enable developers to hook up their preferred choice of front-end tool to Ontos DB, by converting the command syntax of the software into readable object forms. Ontos has developed a set of object class libraries for financial trading rooms in a co-development with the University of West England, (formerly Bristol Polytechnic). The libraries have been designed on the basis of research carried out at the University under the auspices of a Department of Trade & Industry programme, and include temporal functions to monitor the start and stopping time of shares, financial risk calculation and probability functions. Other goals for Ontos this year include, introducing Microsoft Corp Windows 3.0 client support for Ontos DB in June and porting the software to Windows NT. Ontos UK: +44 753 831 890

200MHz ALPHA RISC SAMPLING NOW...

Digital Equipment Corp last week made samples of its 200MHz Alpha chips available priced at \$3,500. Volume ships will start in July at \$1,231 apiece for quantities over 10,000. DEC also cut prices on its 150MHz Alpha from \$1,355 a unit to \$853 in 10,000+ quantities effective in July. Samples will be cut from \$3,375 to \$1,900 next month. The 150MHz has been shipping since September. DEC said the 200MHz benchmarked at 200 SPECfp92 and 106 SPECint92 and an aggregate 184 SPECmark89. DEC claimed that at \$7 an aggregate SPECmark, the chips beat out all comers on the price/performance curve. It also made a point of saying the chips would let personal computer applications reach their full potential under Microsoft Corp Windows NT.

...AS DEC AIMS NEW ALPHA AT PERSONAL COMPUTER, NT MARKET

As well as the 150MHz Alpha AXP machines designed to run Microsoft Corp's Windows NT, Digital Equipment Corp has begun developing a new line of Alpha microprocessors addressed specifically at the personal computer market, according to *US PC Week*. The chip family will include a low-cost part that will offer an interface to Intel Corp's high-speed Peripheral Component Interconnect local bus specification. The first EISA-based Alpha AXP personal computers, which include a minitower and a desktop, are expected to offer better price/performance than systems based on Intel's Pentium processor - the superscalar Alpha executes 300 MIPS at 150MHz where Pentium is rated at over 100 MIPS. The paper reckons that a DEC AXP machine with 21064 CPU, a 512Kb secondary cache, six EISA slots, five drive bays and 16Mb to 128Mb memory will be \$7,000 to \$10,000. Entry-level Pentium machines, which could be used as servers, are expected to be under \$6,000.

NETWARE FOR DEC ALPHA, IBM RS/6000?

Hewlett-Packard Co is already using the hardware-independent version of Novell Inc's NetWare to develop native NetWare for its PARISC architecture. Sun Microsystems Inc is following a similar course, though Novell is doing the port (UX No 423). Now US reports suggest Digital Equipment Corp and IBM Corp will, over the next few months, announce plans to put native NetWare up on their RS/6000 and Alpha CPUs. Meanwhile, the Novell network operating system port to Sun platforms - NetWare for Sparc - will have all the features expected in the upcoming NetWare 4.0, including a global directory. NetWare for Sparc, due next year, will allow MS-DOS, Windows, Macintosh and other vanilla NetWare clients to access Sparc-based servers. They will be able to access resources like printers and databases over NetWare and NetWare for Sparc servers. For Sparc server users, the software will replace the need for Novell's NetWare for Unix, which has been criticised for being too slow. However, SparcStation clients won't - at least not initially - be able to access servers running NetWare for Sparc. They'll have to buy NetWare for NFS, which costs \$5,000 for 100 users. Once the initial product is out, the firms say they will add more connectivity options for Sun workstation users. To offset criticism, Novell is promising to deliver a new NetWare NFS gateway this month, which it says will make it easier for NetWare clients to access Network File System services on remote Unix systems.

TAIWANESE LAB HAS FOUR-CHIP MICROSPARC CLONE

It looks like Taiwan's government-backed Computer and Communication Research Laboratories (CCL) has a four-chip set design aimed long-term at Texas Instruments Inc's MicroSparc, according to a story in last week's *Electronic Engineering Times*. United Microelectronics Corporation will apparently produce the first commercial version of the thing using a 0.6-micron CMOS process trying for a 50MHz, 39 MIPS part in the second half of the year. It will reportedly execute most single-word instructions in a single clock cycle through a four-stage instruction pipeline. The next step is 80MHz with further integration to follow. CCL is catering to chip demands from local Sparc cloners such as Tatung, Datatech, Twinhead, Sampo and Chicony.

CURRENCY PROBLEMS HIT SALES OF COMPUTERS IN RUSSIA

by our Moscow correspondent

Given the dire state of the rouble, computer sales in Russia now tend to be mostly to those pockets of the economy still generating hard currency. Russia's main source of dollars is sales of oil and other raw materials from Siberia. Yet despite the amount of money generated in the region, it has remained largely impervious to the attempts of local companies to establish computer retail operations.

As evidence that money is to be made in Russia's "Wild East", last month Hewlett-Packard Co and Swedish software firm CMA AB sealed a \$3m contract with ASUNEFT in Nizhny Vartosk, North West Siberia to supply a Unix system to automate oil field data acquisition in the region. Much of the computer business in Siberia is still done direct with Moscow. Though the money is being spent, local vendors are having a tough time coping with the increasingly erratic nature of demand and worsening financial instability. This paradox is nowhere more evident than in Novosibirsk - Russia's third largest city, in Western Siberia. The city's economy is heavily weighted towards large manufacturing enterprises, most of which were established to supply the Soviet military. All are now severely hamstrung by the economic chaos in Russia. Under conditions of hyper-inflation no factory manager has either capital or financial stability to invest in any kind of serious modernisation. As a result, little real automation is taking place. In most cases when computers are purchased by enterprises, it is to run administrative systems like bookkeeping. Anatoly Guljaev, managing director of Novosibirsk-based Utilex CT, says the economic vitality of the Novosibirsk region has noticeably declined in the last three years. Many of the large military enterprises which formed the backbone of the city's economy have suffered serious reductions in income. Given the sluggish progress of economic restructuring in the region the size of the hardware market is relatively constant. Most hard currency comes from state grants, from exporting raw materials or manufactured goods. Since no mines, oil wells nor factories have invested in significant modernisation few are making appreciably more convertible currency than they were two years ago. The structure of demand, however, is far from constant. Vendors say organisations will usually buy immediately they have state credits to avoid losing out on the plunging value of the rouble.

Twice-weekly

The rouble-dollar rate is calculated in twice-weekly exchange sessions in Moscow. During November 1992 and January 1993, its value some times slumped by over 10% in a week. There have also been several periods of panic buying triggered by rumours of taxation or currency reforms. Mainly for reasons of security, firms cannot afford to keep stock in warehouses so that confronted with sudden large requests, most cannot compete with their better-connected rivals in the Russian capital. The key to success (or survival) as a reseller in the region is firstly a question of capital. With the Russian currency so weak, the developing fragile tier of rouble resellers - sourcing and reselling for roubles - has all but disappeared. The number of firms selling computers in the region has dropped markedly since January 1992. Customers still buy for local currency but vendors cannot operate without their own reserves of US dollars or Deutschmarks. To compete with Moscow they must also be able to deal direct with foreign suppliers. For local vendors, finding good suppliers is crucial. Machines made from US components, tend to be relatively expensive. The larger market is undoubtedly for cheap Far Eastern clone machines. Due to an anachronism inherited from the days of the Soviet Union, Taiwan is classified as "Third World" for customs purposes. Tariffs on Taiwanese goods are all lower than those on Western European or US imports, giving the so-called "white personal computer" an in-built premium over "yellow" machines. In December 1992 the tax on Taiwanese imports was 7.5% compared with 15% for the US and Europe. Since only a handful of Russian organisations can raise letters of credit, most have to pay foreign vendors 100% payment in advance. With the value of the rouble falling weekly, arranging credit is almost impossible. In Novosibirsk, commercial banks offer around 1,000%. Given the margins on most computer deals and the time it takes to organise shipment, this will bankrupt most companies. Large orders come from huge enterprises (often with over 10,000 employees) small orders come from medium-sized organisations - research institutes or small factories. Principal customers are often banks, which are now virtually the only organisations generating funds big enough for significant investment. At the close of 1992 there was a significant growth in demand. This can be interpreted in a number of ways but the most likely reason is that customers were cashing in on relatively good prices as software vendors failed to keep pace with the rouble's sudden plunge.

IBM's PARALLEL SUPERCOMPUTERS

by Lynn Stratton

You could be forgiven for thinking the only "grand challenge" IBM Corp faces is turning its profit and loss account around. But the company is now moving into the esoteric world of technical and scientific supercomputing - the Intel Corp-Meiko Scientific-Kendall Square Research Inc-Fujitsu Corp domain - with its 9076 SP1 Scalar PowerParallel machine. It is the first of a promised family of RS/6000 RISC-based serial and parallel systems and part of the 'parallel revolution' that IBM believes is destined to transform both technical and commercial computing markets alike. Who knows? A parallel AS/400 might even surface one day, the company suggests. The 'modestly' parallel SP1 is intended as a step up from clusters of RS/6000s - connecting any more than five is cumbersome according to IBM - and a step towards massively parallel TeraFLOPS machines. It comprises between eight and 64 62.5MHz Rios RISC processors delivering 125 MFLOPS peak performance and 64Mb to 256Mb memory on each node, and running under full AIX/6000 Version 3.2. System management is provided by a single RS/6000 control workstation running AIX/6000 and with AIX Windows access from other workstations. It runs IBM's new 9076 system support programs for hardware monitoring and control and also has a 7208 model 001 tape drive for software installation. System performance and scalability, IBM says, is boosted by the SP1's specially designed multi-stage packet switch, which provides 'any to any' connection between the processor nodes and ensures a constant 40Mbps peak bi-directional bandwidth and 500nS latency. The switch has been designed to support increasing numbers of nodes and will be used in future IBM supercomputers, the company says. This will enable users to transfer applications developed on one machine to another without fear of mismatches in timing - so removing a major headache for developers. Ease of programming and availability of software are key concerns for supercomputer vendors as IBM rightly recognises. For instance it is offering a number of parallel application development packages - Linda, Express and PVM - alongside the AIX Parallel Environment Software that the company has developed itself for the SP1. Forge 90 will also be available to run High Performance Fortran parallel programs on the SP1 and to help parallelise existing serial Fortran programs. And it has wasted no time in garnering the support of academic and commercial developers with over 20 firms writing software for it. Conveniently, AIX/6000 applications will run on the SP1 - and future SP1 software packages will be also backwards compatible with clusters of RS/6000s. IBM intends to support other Unix workstations and clusters in the future. Loadleveler is compatible with Network Queuing System, Network File System, and the Andrew File System protocols - with Distributed File System extensions planned for the future. Data access is provided by a file server - either an RS/6000 or other Unix machine, which has to be provided by the user. The Fibre Channel Standard and FDDI interfaces are supported and an SP1 Block Multiplexor will provide a direct connection to IBM 390 systems. Prices start at £240,000 - ships begin from the third quarter.

KODE OUTLINES ITS PLANS

With the merger of DCM Services Ltd and Kode International Plc's Kode Computers Ltd now complete, the company has broadened its range of consultancy services, and is looking for acquisitions in the UK. Managing director Joel Jervis is already negotiating with several companies operating in niche areas such as network support. The company won't lean towards Kode Computers' traditional markets - local and central government - preferring to focus on the more lucrative commercial sector. DCM's activities have been reorganised into four sectors including an open systems planning unit developed out of Kode Computers' government expertise. It provides consultancy and installation services for all flavours of Unix. Its speciality is AIX, chosen for its captive RS/6000 market - the box is the most popular Unix environment among DCM's customers. The firm generates most of its business on the back of existing large accounts - worth, on average, between £70,000 and £80,000 a month - and by word of mouth. Open systems-related projects will net it £2m in revenues this year.

BANYAN, ARTISOFT AND NCR COME TOP IN BUTLER BLOOR NETWORKING REPORT

Milton Keynes, UK-based research firm Butler Bloor Ltd's latest tome on the IT industry looks at networking: peer-to-peer networking, server-based networking on personal computer and Unix platforms and network management systems. In it, Artisoft Inc's LANtastic gets top marks in the peer-to-peer category, followed closely by Sun Microsystems Inc's 10Net. Banyan Systems Inc Vines and Vines for Santa Cruz Operation Inc Unix are rated best products in the server categories. NCR Corp's StarGroup comes second to Vines for SCO Unix and is regarded as the "premier implementation of LAN Manager," by Butler Bloor. The report acknowledges Digital Equipment Corp and Hewlett-Packard Co users are still more likely to opt for Pathworks and Lan Manager/X networking solutions from their respective suppliers. In network management software, it positions NCR's StarSentry as a "clear leader" over HP OpenView, though it praises OpenView for its superior security features, and SunNet Manager for its "excellent foundation which third parties have built on." As far as personal computer networking is concerned, "there is little to choose from between Microsoft Corp LAN Manager and Novell Inc NetWare, though NetWare has the edge in performance," the report concludes. It sees the combination of AT&T software and NCR hardware being particularly successful, whilst in the battle between Microsoft Corp and Novell Inc it expects "Microsoft to dominate the desktop and possibly provide Novell with competition on the server."

Trends

The Butler Bloor missive identifies a number of key trends that will, in its opinion, result in a dramatic increase in networking activity across the board. Although data and voice transmission lines are moving gradually towards the 144Kbits per second Integrated Services Digital Networks specification, the report believes ISDN has not been as successful as many pundits believed it would be. In fact "it has been short of traffic." Meanwhile, it says, the emergence of ATM, asynchronous transfer mode local area network (LAN) technology, has laid to rest any doubt about whether networks will be able to handle the kinds of traffic throughput expected in the future. ATM is a derivative of fast packet switching technology, offering speeds of up to the gigabits per second range, supports voice, data, image and video, and can therefore implement ISDN. This is networking technology "running at CPU bus speeds," the report suggests. It quotes Gartner Group estimates that reckons investment in ATM technology will top \$50bn within the next six years.

Saturated

Other "roads" for the electronic traffic of the future include radio technology. Demand here is likely to be high, the report says, because the service will be able to satisfy the demands of portable computing. "The problem is that the airwaves could become quickly saturated." Satellite communications provide a way round this, and now Iridium Inc - a company founded recently by a consortium of companies including Motorola Inc - is to place a constellation of 66 satellites around the earth, costing \$3bn, for a commercial service that is expected to span the globe by 1998.

Reality

However, even with the tens of millions of personal computers and workstations in use around the world, networking and network usage still hasn't taken off in a big way, the report says, because two things are needed: multi-tasking operating systems and the means to develop client/server applications. Soon, it argues, nearly every desktop system will be sold with a multi-tasking operating system - OS/2, Windows NT or Unix - on 32-bit hardware or better. Client/server applications are becoming a reality with performance problems being addressed by faster computers, faster LAN speeds and improving software. The arrival of desktop operating systems and client/server computing has coincided with the emergence of graphical interfaces, and computers now more often handle bit-mapped, rather than character-based environments. With the advent of multimedia, the - for the most part - disparate information sectors, such as television, film, telephones, books, newspapers and records, will become increasingly integrated industries. Global networks will be used by computer users first, the report concludes, whilst the owners of the highways - both public telephone companies and independent carriers - which charge for traffic, "cannot fail to profit." The 300 page report - "Networking: Options & Comparisons" evaluated 20 products and costs £420. +44 908 373311

UNIX SEEN STARRING IN MAJOR TELEPHONE STANDARDS EFFORT

Major international telecommunications service providers are teaming under the auspices of the Network Management Forum to agree purchasing specifications for an open, standardised computing environment to support their network, service and business management needs - and with annual spending of \$20,000m a year on computer systems, the parties involved have the muscle to impose any standard they set. The service providers - including AT&T Co, British Telecommunications Plc, France Telecom, Nippon Telegraph & Telephone Corp, Stet SpA, Telefonica de Espana SA and European Telecommunications Informatics Services, have formed a team within the Forum called Spirit - for Service Provider Integrated Requirements for Information Technology - to manage the effort. Computing and equipment suppliers that have joined include Alcatel NV, Compagnie des Machines Bull SA, Hewlett-Packard Co, Digital Equipment Corp, GEC Plessey Telecommunications Ltd and IBM Corp. The objective will be a realistic specification that can be met by a wide variety of suppliers, but the final say in the specs will be left with the service suppliers, making it highly likely that Unix System V.4 will be at the core of the specification. The work of Spirit will be an input to the OmniPoint programme, an agreed collection of specifications and technology needed to achieve integrated service management, including open management systems, reflecting combined efforts of user groups, standards bodies and consortia such as X/Open Co Ltd, Open Software Foundation and Object Management Group.

BRS DEBUTS LATEST TEXT RETRIEVAL SYSTEM

The London-based UK arm of document retrieval specialist, BRS Software Products - a division of InfoPro Technologies Inc, McLean, Virginia - has introduced BRS/Search 6.1, an enhanced version of its document retrieval system for client/server Unix environments. The software, first introduced twelve years ago for mainframe environments, enables multiple users to search and retrieve specific documents, on the basis of their content, rather than on indexed component labels. BRS/Search can handle large volumes of unstructured textual information by recording the position of every word. In comparison, traditional document management systems developed upon relational database management systems rely on a pre-defined indexing system, which sub-divides a document by title and paragraph, not on content as such. This restricts text retrieval, BRS says. The client/server version of BRS/Search can store text, images, graphics, audio and video documents. It comes with BRS/Word, a WordPerfect filter which imports and exports WordPerfect 5.1 documents to and from BRS/Search. It includes Tally, a document analysis module that details statistics on word occurrences. BRS/Thesaurus is a library of hierarchical word lists. The system also includes BRS/Demon, a data entry editor; BRS/Native Mode, a graphical toolkit for command level user interfaces; and BRS/Views, a character-based interface toolkit. BRS/Search also includes BRS/Vision, a Windows-style interface. It provides object-linking and graphical displays of hierarchical structures like the thesaurus and tool boxes. BRS is currently developing Win32 application programming interface (APIs) extensions for Windows NT which will be available by the end of the year. BRS users are predominately found in the legal, government, security and publishing sectors. The system can search up to 16 databases simultaneously and works with a variety of relational database systems including Oracle, Informix, Ingres and Sybase. Available now, the system is priced from £2,000, depending on the number of users and platform. The company, which has four US and four European offices, has set up an Asian-Pacific operation in Singapore.

POSLOGIC HAS INTEGRATED POS SYSTEM UNDER UNIX

In Florida, Miami's POSLogic Corporation is soon to announce its first product, the POSLogic 5000 Point of Sale System, reportedly the first Unix-based POS system to incorporate both hardware and software as a fully integrated product. The company says every POSLogic terminal comes with full-featured POS and inventory control software designed to operate under the popular species of Unix. Cash sale, credit, refund, exchange, partial payment, store account and other transactions are supported. Options include laser, CCD, LED and projection scanners, weighing scales, coin changers, touch screens and membrane keyboards. Prices will start at \$3,200. The product will go through distributors. +1 305 433 5310.

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The SCO/IXI combine will be looking at ways of re-negotiating, where possible, some of IXI's earliest deals, which saw it licence X.desktop away for very small amounts in some cases: ironically SCO was one of the earliest beneficiaries of that licensing policy.

Electronic Engineering Times reports that **Systems and Processes Engineering Corporation** down in Texas has got first silicon in its NASA-backed effort to make a 200MHz gallium arsenide Sparc module for use in space applications. **Vitesse Semiconductor Corp** is the foundry.

Scotts Valley, California-based **Microport Inc's** System V.4 now supports **Corollary Inc's** multiprocessor and XM multiprocessor hardware designs, making it the first independent software vendor to provide a shrinkwrapped multiprocessing version of Unix SVR4.

Sun Microsystems Inc worshipper **Integrrix Inc** has come up with a keyboard called the S5+ that incorporates the functionality of Sun's new Type 5 but can also be used with all Suns, Sun compatibles and PCs. It is targeted at mixed computer environments and X terminals and requires no special device drivers. +1 805 375-1055

Users of the "Pentium-ready" personal computer systems which have been on sale since the middle of last year - **Intel Corp** 80486-based boxes with a Pentium upgrade socket - won't get their OverDrive Pentiums, code-named the P24T, which plugs into the socket, until next year (UX No 424).

Although **Next Computer Inc** has stumbled, **Data General Corp**, which last year signed to resell Next boxes, will maintain a relationship with Steve Jobs' firm - it says it was always more interested in the NextStep software anyway, and will market the environment on its OEMed 80486 personal computers once it becomes available.

It was supposed to be a big secret when we heard it but *Open Systems Today* must have announced internally by now that it's killing off its stepchild *SCO Magazine*.

AT&T and **Unix System Labs** want to be sure no one who contributed significantly to the advance of Unix these last 24 years is overlooked at the big bash they're throwing at Uniform (UX No 423). If you have any suggestions you're asked to call Larry Lytle at +1 908 522 5186.

The Microprocessor Report notes that the **Motorola Inc** 88110 is now in production but isn't reaching its original 50MHz target. **IBM** is using it in its new X terminals but says it will probably migrate to PowerPC 601s when it's got volumes. A 40MHz 88110 is roughly the performance equivalent of a 33MHz SuperSparc.

The search for a new chief executive for **IBM Corp** has moved into top gear and could be complete by the end of next month, the *Wall Street Journal* reports. It notes that by hiring two firms, **IBM** gave itself maximum scope - and also upset the search industry because search firms are barred from approaching a company they have worked for two years after a placement, and barred for life from approaching an individual they once placed, so each of **IBM's** two can pass on such names to the other. Names mentioned as possibly on the short-list are Paul Stern, lately of Northern Telecom Ltd and seen as having enemies among **IBM's** present top brass; Perot Systems Corp chairman Morton Meyerson, **Motorola Inc** chief executive George Fisher and Louis Gerstner, chairman of **RJR Nabisco Inc**.

With **Digital Equipment Corp** closing its proprietary VAX manufacturing plant in Galway - see page three - Unix supplier **Sun Microsystems Inc's** SunSoft satellite will this week bring a little good news to the Republic of Ireland, when it announces on Tuesday the establishment of a software development centre outside Dublin. The centre will look after internationalisation of software for the European market, though not manufacturing, and will be staffed by up to 100 employees over time.

The **Open Software Foundation** has been quoted in the US press as saying it shipped 85,000 binary versions of OSF/1 to developers and users last year.

Sequent Computer Systems Inc investor relations manager John Eldridge says *Wall Street* estimates for the company's 1993 earnings per share to run from \$0.95 to \$1.10 and that the company is comfortable with that range. **Sequent** expects to continue to win orders from the traditional mainframe market and says it expanded its sales force to 160 from 125 at the end of 1991 although total employment fell to 1,550 from a peak of 1,800. It sold more \$500,000-plus machines in fourth quarter 1992 than the three previous quarters combined and looks forward to being able to use Pentium in its machines, because it says the new **Intel Corp** chip will reduce the gap between its machines and RISC in batch processing work.

DEC has packaged a cost-optimised 100-MIPS/10-watt Alpha chip, some DECelx and OSF/1 real-time software and services to attract OEMs in the embedded market. Hardware samples this summer. These chips will also be used in single-board computers.

DEC watcher Terry Shannon has heard reports **DEC** is working on a microkernel-based OpenVMS implementation.

We have a sneaking suspicion **IBM Corp** will be looking for outside investors for many of its new business units, maybe the new Power Parallel and Power RISC Systems ventures.

SunSoft Inc's director of **Intel Corp** iAPX-86 product marketing, Allan Snell, has left to go and live in the house he's been building in Boulder, Colorado.

Novell NetWare 4.0 will debut on Wednesday March 10 in Washington, DC.

Unix Systems Laboratories president Roel Pieper and his boss-in-waiting **Novell** chief were in Japan last week explaining to **USL's** Japanese shareholders the ins and outs of the deal that's been cut. Reportedly some companies, perhaps **ICL** and **Olivetti** for instance, were interested in somehow retaining their shares in **USL**.

USL says it will release a beta version of the Architecture Neutral Distribution Format (ANDF) for ISVs by summer.

Because of falling hardware margins, **Fujitsu Business Systems Ltd** in Japan has reorganised to pursue software development and sales bringing together its 700-person K Series office software development group with its 50-man Unix software development group to create a System Headquarters Group.

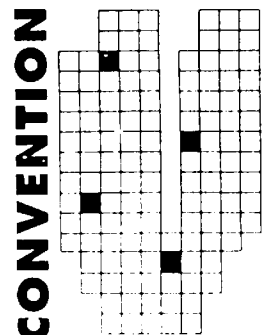
The consortium du jour is the brand new **SGML Open**, a group of electronic distribution, authoring and database software companies which have banded together to push SGML (Standard Generalised Markup Language) as an international and commercial standard for document and data interchange. Members include **Fulcrum**, **Interleaf Inc**, **Oracle Corp**, **SoftQuad**, **XSoft Inc** and **Avananche**. SGML is supposed to be able to do for document-based information what SQL did for proprietary databases. Announcement is due in April.

San Rafael, California-based **Island Graphics Inc** will no longer sell directly to resellers. This week, as a transition, it will set in train a reseller programme called **Palm Partner** to offer distributor-level resources, lead passing, technical support and discounts to US and Canadian resellers who buy **Island's** software through its actual distributors **Access Graphics Inc**, **Ingram Micro Inc** and **Merisel Inc**.

The **Open Software Foundation** will debut the next version of its Distributed Computing Environment, DCE 1.2, at Uniform. OSF also confirmed version 1.2 of OSF/1, released last month, is X/Open Co Ltd XPG4-compliant and says it plans to introduce a full-featured Mach microkernel version of OSF/1 in the first quarter of 1994.

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SPARC INTERNATIONAL SCHEME BACKS UNIX SVR4

In a burst of well-timed ecumenism, Sparc International and a number of its key members have thrown their combined weight behind Unix SVR4, trying to build bigger application muscle. Sun Microsystems Inc, one of the players, has given up the SparcWare designation used by its Catalyst ISV programme to the group's new "plug and play" binary-compatible branding scheme. From now on it will refer to products validated as working with all Sparc-compliant hardware and software, not just Sun. SparcWare is driven by the need to lower the support costs that eat up 50% of every software engineering dollar and expand the market for independent software vendors. It is specifically designed to evolve current Sparc-based applications to SVR4 and acknowledges Sun's Solaris operating system only as an SVR4 subset. Their specification however, looks down the road and anticipates the need to provide for both Microsoft Corp NT interoperability and Windows NT SparcWare applications in future. The hardware vendors behind the move, only a slice of SI's 34-odd ironmongers, are described as early leaders in SVR4 and include Amdahl Corp, Cray Research Inc, Fujitsu Ltd, HaL Computer Systems Inc, Matsushita Electric Ltd, Solbourne Computer Inc, Sun, Tatung Science & Technology Inc and Hyundai America's Axil Workstations. SunSoft Inc is also a backer. Their designs are on the huge non-Sparc market and the glass house IBM Corp has loosened its grip on. The amount of money companies like Sun stand to save testing and retesting applications. Sparc International estimates 70% to 90% of applications can be common among platform providers with no significant loss of competitive advantage. The enticement to ISVs is the range of stable Sparc platforms from laptops to supercomputers coming to market. Initial support is coming from Accel8 Technology, Elan Computer Corp, Frame Technology Corp, Hunter Systems Inc, Lotus Development Corp, Oracle Corp, Objectivity Inc, Pure Software Inc, Quorum Software Systems Inc, SAS Institute and Unidata Inc. Others are expected to join at UniForum. The goal is to have several hundred software houses rallied to the banner by the end of the year. However SparcWare's gaze is firmly fixed on the 42 ISVs responsible for 60% of the product volume worldwide. Compliance involves porting to the Sparc Compliance Definition 2 (SCD2) binary interface specification written and agreed to by SI members last year. SCD2 contains the application-visible interfaces common among platform providers and some vendor-specific optional interfaces. Sparc International has developed a System Compliance Test (SCT) to verify hardware and operating systems compliance and the Sparc Application Verifier (SAV) to test applications. Both hardware and software will be SparcWare branded. SI will promote the breakthrough with a \$2m advertising and public relation campaign supplemented by direct mail, applications catalogues and a user-accessible on-line database. The validation tests, which cost \$2m to develop, have already been shaken out. The consortium is using two reference platforms: a Sun-made Sparcstation 2 and a Fujitsu-made DS/90-7000 server running UXP/DS, Fujitsu's version of SVR4. The programme will be taken to Japan in the fourth quarter. Efforts to internationalise the SCD should bear first fruit in the autumn based on X-Windows X11r5 and then move to a finer degree of granularity with the proposed X11r6 made by SunSoft and the Open Software Foundation. SI will manage the "gold" specification and its roadmap and own the Sparc brand. ISVs will be charged nothing until the second year when a \$2,500 fee per company will be levied. Vendors, who will recruit the ISVs, will pledge that their platforms will run branded software for at least three years.

SANTA CRUZ ON THE ROAD TO US FLOATATION

Ending months of speculation, Santa Cruz Operation Inc says "the process to do an initial public offering has begun." The Unix-on-iAPX-86 software house reported revenues of \$160m to September last year and is still digesting last week's acquisition of UK, Cambridge firm, IXI Ltd (UX No 425). Santa Cruz has appointed an unnamed investment banker to handle the US floatation, though no further details were available as went to press.

COSI SUFFERS CRISIS OF CONFIDENCE

Another initiative which seems to be suffering from a bout of collective cold foot - see opposite - is the Common Operating System Interface effort sponsored by IBM Corp and Hewlett-Packard Co. The proliferation of industry alliances and more recent consolidation is said to have induced a state of panic at the two firms about the logic of what they are trying to achieve with COSI - banded in some quarters as Systems Application Architecture II - and whether there are sound business reasons behind it. Although the two firms are still expected to cement an agreement over Taligent Inc (UX No 425), the COSI announcement is now likely to be toned down, with the participation of other firms that had been in the same swim, such as Santa Cruz Operation Inc and SunSoft Inc, looking increasingly unlikely by the day.

AGREEMENT STILL SOUGHT ON COMMON DESKTOP FEATURES

The formal agreement of a number of vendors is still being sought for the planned Unix Common Desktop Environment, CDE (UX No 425). A fanfare introduction for CDE's Distributed Format Desktop Architecture specification at next week's UniForum trade show in San Francisco is now in doubt. The initiative, driven by Unix Systems Labs and the Santa Cruz Operation originally counted DEC, HP, IBM, Novell Sun as potential supporters. Some are reportedly getting cold feet. The sensitivity of the initiative is underlined by the fact that it took at least five months for USL and SCO to agree on a basic specification drawn up by UK firm IXI Ltd and edited by USL. IBM and HP appear to have other fish to fry - see opposite. Others are said to be re-examining their positions in light of the latest industry consolidations and have balked at a large scale media event to mark the signing of a common Unix document. USL favours a meeting of the parties, planned for Thursday 18th. SCO and IXI remain confident that some form of agreement on CDE can be reached by then. The specification causing all the fuss will allow ISVs to write applications that can be installed and run from Unix desktops rather than the shell. There is no interface dependency. DFDA will work with Motif, Open Look and Moolit toolkits. CDE means users won't have to worry about different install methods and should be able to move around different Unix environments without much re-training. Some drag and drop issues, such as how an application will be launched when a file associated with that application is opened, are still to be resolved. If CDE clears the first hurdle, other ideas for it include moving desktop icons between distributed systems using an object request broker.

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NOVELL, UNIX LABS TRY TO REASSURE JAPANESE ON THE MERGER

by Anita Byrnes

Ray Noorda, chairman of Novell Inc, and Unix System Laboratories Inc chief Roel Pieper visited Japan at the end of last week in an attempt to reassure shareholders and customers of their respective organisations, already, if not soon to become, joint shareholders, that life is proceeding as normal and that the future of Unix as the industry has known it was in good hands. They were long on reassurances and short on details of how the companies will operate post-merger. According to Novell, the main benefits are increased quality of product and service and a stronger financial base of the resources available for the development of Unix SVR4. Roel Pieper recognised that there had been some negative reaction to the merger both from Unix Labs employees and Unix Labs shareholders, as well as Unix International Inc members, but said this was merely a human reaction to change and felt confident that their talks in Japan and to Unix Labs members had been able to address the concerns of Japanese customers regarding their home market. Particular concerns were that there would be a level playing field with regard to technology access and specifications, and that fair licensing policies would be followed. According to chairman Noorda, Novell has no plans to move Unix Labs headquarters from New Jersey to Utah; rather the two companies' respective strengths in the East and West Coast would count as advantages in the future; even now in fact they were "geographically separate, but mentally close". The situation as regards the merger of their two respective companies in Japan - Unix Labs Pacific and Novell KK - is more complicated - so complicated that Noorda said he would need lawyers - anathema to the Japanese - involved even to discuss it. Currently four Japanese companies are shareholders in Unix Labs - Fujitsu Ltd, NEC Corp, Oki Electric Industry Co and Toshiba Corp - and some of the same companies - Fujitsu, NEC, Toshiba - are shareholders in Novell KK, Novell's Japanese subsidiary. Noorda suggested that while it had yet to be decided, these companies' shares in Unix Labs would be exchanged for Novell shares.

Co-opetition

Regarding the anticipated competition in the market between Microsoft Corp's Windows NT and Unix, Noorda coined the phrase co-opetition - co-operation and competition - to describe the new culture. He regards Microsoft NT as good for the market since it will focus the market more on "rightsizing" and permit competition at a technological level, where Novell is confident of its capabilities. Noorda says that Novell is acutely aware of the "history" of Unix and its penetration into government and industry over the past 20 years. However he thinks that development of the operating system as an application server will be accelerated thanks to Novell's participation, with Unix evolving to a broader market with additional features and capabilities, including links with NetWare. The involvement of Unix International as a body that codifies requirements specifications will remain the same, although Unix International will also be going outside its traditional member-suppliers for sources of technologies. This was welcomed by the head of the Open Software Foundation in Japan, Dr Rob Morel, who ventured that possibly the Foundation was better positioned than before as a "truly independent standards organisation". According to Noorda, Novell also feels it has a role to play in unifying the industry; currently there are "too many Unices" says Noorda, and he hopes to work with Novell's OEM customers in both joint marketing efforts of the current Unix Labs software line and development of specific hardware to work with new products. Japanese members of Unix International, whose opinions on the merger were canvassed at the Tokyo announcement of Unix International's Roadmap on Tuesday last week, were in various minds in their support of the new ownership of Unix Labs. Most said that they had been surprised if not totally taken aback by news of the merger. But to various degrees said that they were prepared to work with the new ownership as long as the guarantees of openness and neutrality made by Novell regarding the development of System V.4 were maintained. However the representatives of NEC and Fujitsu reserved comment, saying that they had not received official notice of their position and that they looked to the future to reveal this. One can only hope that in their visits to these firms over the last few days, Ray Noorda and Roel Pieper were sufficiently persuasive.

MICROMUSE READIES COMPLEXITY MANAGEMENT SOLUTIONS

MicroMuse Ltd, the Putney, London-based Sparc-compatible builder turned systems integrator, is one of just a couple of UK firms distributing SunConnect's SunNet Manager to other resellers and system integrators. MicroMuse is using the software - tools, services and agents for network management - as a backbone to leverage sales of consultancy, support, training, third party software, Sun hardware and its own complexity management solutions. Managing director, Chris Dawes, claims MicroMuse can supply around 70% of the third party software products available on the market which work with SunNet Manager and can integrate all types of kit using its own resources or those of its 15 value-added integrators and six networking partners. Dawes believes getting users' networks up and running properly is one of the biggest challenges facing the industry. In two or three years time, high-end personal computer-type boxes will look quite alike, he thinks. Users will have Unix or similar multi-tasking operating systems, networking and fairly similar graphical front-ends running on powerful CPUs from a variety of vendors that will need integrating. Suppliers are currently working furiously to bring all manner of object-oriented and distributed computing software services, mechanisms and applications to market - targeted at these types of platforms - which won't work at end user sites unless those users have properly functioning networks of integrated systems to run on, says Dawes. MicroMuse believes Sun NetManager is the best tool for the job (although an SQL link for the software is currently only available from a third party). MicroMuse has written its own asynchronous, event-driven distributed transfer protocol (remote procedure call) for the complexity management software it has nearly completed, which again, is targeted at these environments. The 120,000 lines of C code is currently on beta release and will be debuted at the Unix Expo show in New York this September. Beyond this, Dawes says MicroMuse will be writing and selling more of its own applications in future. With three years of system building and integration under its belt, the company intends to focus on software distribution and development for the next two or three years. Privately-held MicroMuse recorded revenues of £3.2m to September 1992, does 60% of its business on Sun platforms, and reports that 40% of its sales are software-related. Former Sun UK staffer Andrew Russell is now marketing director at the firm, which has 20 employees. +44 71 352 7774.

TEKTRONIX'S IBM 3270 AND TOKEN RING X-TERMS

Having addressed DEC and Sun compatibility, X-terminal manufacturer, Tektronix Inc of Wilsonville, Oregon, has decided to look at the other side of the IT equation and provide IBM terminal emulation software and a family of X terminals for Token Ring Networks. Tektronix expects its X terminals, emulating the 3270, to be hugely successful with those users that wish to replace terminals with a windowed environment without the pain of retraining staff on a new system. According to Tektronix there are more than two million 3270-type terminals installed in the US alone. The company claims that its 3270 emulation allows users to access 3270 applications running on IBM mainframes or other mainframes, workstations, or servers, or on the Wide Area Network. Under X Windows the user can also retrieve data from several sources simultaneously and switch between applications. A 3179G emulation will allow users to display 3179G graphics applications from an IBM mainframe as well as using windows for current applications. Tektronix believes that a vast amount of major corporates within the banking, financial services, insurance and utilities industries have adopted an IBM-compatible Token Ring network. In Tektronix' opinion, although these markets have not yet embraced X technology they would benefit from the technology immensely and are therefore looking very closely at the options. Prior to the Tektronix announcement, the other options for these users were an IBM solution using the PS/2 board or waiting for the NCD plug-in board option that is announced but not yet available. Tektronix says that it has designed this family of five terminals, the XP10T series, for high bandwidth and very high reliability - this has been achieved by placing everything on one board including the graphics, X, the LAN logic and the LAN cable connectors, there are no edge connectors. The models are compatible with the existing Tektronix XP10 and XP330 series and are built around the Texas Instruments 340X processor and the Super Eagle/Falcon Token Ring LAN chip set. The terminals will be delivered with two serial ports and from 4Mb to 16Mb memory, a flash memory socket on the logic board as standard, X11R5 and Tektronix' version 6.0 X terminal software. The technology was developed in conjunction with OpenConnect Systems, Olicom of Denmark and Texas Instruments. The 3270 and 3179G emulation packages are priced at £270 and £455 respectively. Prices for the XP10T series start at £1,295 for XP11T, £2,745 for the XP12T, £2,145 for the XP17T, £3,845 for the XP18T and £4,455 for the XP19T. General availability is May.

ARIES READIES HYPERSPARC WORKSTATION FOR UNIFORM DEBUT

Sparc-compatible builder, Aries Technology Inc, Fremont, California, is promising what is to our knowledge, the first system implementation of Cypress Semiconductor Corp's HyperSparc for delivery in April. At Uniform next week, the firm will show an Mbus-based Marixx DS workstation using a 66.7MHz HyperSparc RISC - which is plug-compatible with the Texas Instruments Inc/Sun Microsystems Inc SuperSparc - alongside Marixx DT a Sparcstation 10 Model 30 clone which uses a 36MHz SuperSparc. Aries is pitching Marixx DS against Sun's overdue 45MHz and 50MHz Sparcstation 10s, which are now expected around the end of the second quarter (UX No 425). According to Aries, its HyperSparc workstation performs at 133 MIPS, 42 MFLOPS and 70 SPECmarks (66 SPECint92 and 88 SPECfp92). Sun's 40MHz Sparcstation 10 Model 41 is rated at 50 SPECmarks, 50MHz Models 52 and 54 are expected to go to 80 SPECmarks in single processor configurations. Aries will wait on market response before planning any more HyperSparc configurations. The Marixx DS - deskside - comes with from 64Mb RAM, up to 1Gb disk, 15" or 19" colour screens, SCSI-2, two serial ports, Ethernet, one Mbus slot and 3 Sbus slots plus two GX graphics cards. It runs SunSoft Inc's Solaris 1.0.1 - support for Solaris 2.1 will follow. The Marixx DS is priced at \$18,000, \$1,000 less than the comparable Sun box, the firm claims. Aries' Sparcstation 10 model 30 clone, the Marixx DT comes with two Mbus and four Sbus slots, supports up to 512Mb RAM, SCSI-2, Ethernet, two serial ports, ISDN and Solaris 1.1. Options include CD-ROM, choice of graphics cards and 16", 17" or 19" colour monitors. Marixx DT will get 40MHz upgrades by mid-year, and 50MHz parts when they arrive. The Marixx DT is priced at \$15,000.

WYSE'S PENTIUM-READY UNIX, NT MULTIPROCESSORS

Wyse Technology Inc this week will introduce its widely previewed third-generation symmetric multiprocessor platform, the Series 7000i Model 760MP. The system, initially positioned as a Unix multiuser box and network database server, can support more than 250 active users and starts at \$20,000 - £19,500 - for a uniprocessor. The system is scalable to five Intel Corp 66MHz i486DX2 chips and will be field upgradeable to Pentiums once they become available. Additional boards list for \$7,500. The system will also be sold as a Microsoft Corp NT server, starting at £22,000 and going to £34,500. It runs an SMP implementation of SVR4 with Wyse-enhanced multithreading to tune performance. Optimal performance reportedly tops 200 MIPS. Maximum user load is 792 under AIM III. A new highly integrated board design optimises the burst mode of the EISA bus. Data is transferred at 33Mb a second between the 32-bit EISA bus and the 64-bit Wyse Wyde bus, a four times I/O improvement over the previous generation. The board also features a controller ASIC that centrally manages system interrupts, improving scalability and overall throughput. There is SCSD-2 support for newer peripherals such as CD-ROM. It also improves data transfer to 10Mb a second, double the previous SCSI-1 drives. The system will handle a maximum of 52Gb of SCSI-2 storage via four expansion chassis. There are nine 32-bit EISA slots and six 64-bit proprietary Wyde slots. A 320Mb/525Mb cartridge tape drive is included. The system will boot remotely via an internal modem. Firmware upgrades can also be done remotely or with a floppy disk. The box ships with 16Mb of RAM expandable to 512Mb. Microsoft has used the box as a development and test platform for multiprocessing NT. Development versions are \$10,000 to promote NT applications development. The 760MP was designed on its big brother the 960MP. It reportedly took only three days to boot Unix on the prototype.

INGRES TO SUPPORT OTHER DATABASES

The Ask Group Inc has formed a new software development unit which will see its ManMan/X manufacturing development environment and Ingres database and toolset opened up for use in conjunction with other solutions. The unit is to be headed by Eric Carlson and will provide application programming interfaces (APIs) to Oracle, Sybase and Informix databases, gateway products, and Ingres/Windows4GL connectivity to non-Ingres platforms. The new division joins Ask's existing businesses, Ingres, Ask Computer Systems and Data 3 Systems. First products are scheduled for release by year end. The firm has also set up a new distribution business unit which will integrate Ask's worldwide direct sales operations.

IXI WIDENS THE VIEW WITH PANORAMA

Now a UK division of the Santa Cruz Operation Inc (UX No 425), Cambridge-based IXI Ltd will debut its latest desktop tool - Panorama - at next week's Uniform trade show in San Francisco. IXI describes the software as a virtual workspace - the product allows users to operate and work in a windowing environment that extends well beyond the physical space constraint of their monitor, as if they were sitting at a huge screen. Panorama will let users keep windows open and processes going off-screen that would otherwise have to be closed down for lack of space. Effectively an OSF/Motif window manager, Panorama provides a map of the entire system which is similar to location grids used in many video games. The difference is that the IXI map is interactive - the user can go to any part of the system by pointing and clicking at a required position on the map. Panorama also employs the concept of "sticky" windows; windows that are dragged around with user wherever he or she moves in the system. This feature is intended for users that depend on constant information feeds, such as financial trading houses, IXI says. Panorama is available from April on Sun Microsystems Inc workstations running Motif. Digital Equipment Corp Alpha and Mips, Hewlett-Packard Co PA-RISC and IBM Corp RS/6000 versions will follow, with an SCO Open Desktop version due for ODT 3.0 later this year. IXI's X.desktop manager is not required to run Panorama; Motif is. Pricing hasn't been finalised, but the firm says it shouldn't be much more than the cost of the Motif implementations it supplies. A section of the US military has already signed for Panorama, according to IXI, and will run the software on some 400-odd small screen Sparc laptops it has.

PIONEER OPEN DATABASE CONNECTIVITY

Pioneer Software Corp, Raleigh, North Carolina, has launched the Q+E Open DataBase Connectivity Developer Programme to enable developers to create and test applications compliant with the Microsoft Corp standard. Developers will get early access to Pioneer Software's complete suite of ODBC drivers, which support over 20 personal computer and SQL databases - Oracle, SQL Server, Sybase, dBase Ingres, Paradox, DB2, SQL/400, Btrieve, OS/2 Data Base Manager, Informix, NetWare SQL, Excel, Progress, SQLBase, XDB, SQL/DS, Tandem Computers Inc NonStop SQL, Teradata, text files, HP Allbase/SQL and HP Image/SQL and gateways to IBM's DDCS/2, Micro Decisionware, and Sybase NetGateway. The Developer Programme costs \$1,500 and will be available March 15.

ANOTHER 3,000 JOBS TO GO AT BULL

Compagnie des Machines Bull SA is looking to cut another 3,000 jobs from its global payroll of about 35,000, chairman Bernard Pache said last week as he presented the figures for 1992 which are worse than those of 1991, with losses equivalent to \$847m at the current \$0.18 rate of exchange compared with \$595m a year ago. Even before provisions, losses only improved marginally, at \$409m compared with \$474m last year. Sales fell 9.8% to \$5,440m, and Bull blames the world economic slowdown, price wars in the personal computer market segment and the effects of structural changes in the industry - but those problems also affected Hewlett-Packard Co, ICL Plc and NCR Corp, all of which managed to remain profitable and to grow in 1991. On the brighter side, the operating margin improved for the second year running, and the operating loss was 44% less dreadful at \$116m. This was attributed to a 14% reduction in the cost of its operations to \$1,620m following a 9% contraction in 1991. And net debt was lowered by \$270m to \$1,694m. The 3000 new job cuts planned for 1993 follow 4,700 in 1992.

WISCONSIN REJECTS STEVE CHEN'S PLEA

The Wisconsin state authorities feel that they have lost enough money on Steve Chen's dreams - his failed Supercomputer Systems Inc received \$75m in incentives from it to establish its operations in Eau Claire, and they showed Chen the door when he asked for another \$5m to get his fledgling SuperComputers International Inc off the ground in Eau Claire. Chen spokesman Lee DeLorme told United Press International that negotiations are continuing with the city of Eau Claire for an aid package to base the company there, but that the state's decision has prompted Chen to look to other states for aid as well. "It means we are free to pursue other offers of public support," he said. Some 300 people lost their jobs when Supercomputer Systems failed; Chen had hoped to re-hire about 50 of them, but if he goes elsewhere, not many of those are likely to be offered positions.

SUN TO OPEN SOFTWARE DEVELOPMENT CENTRE IN DUBLIN

Sun Microsystems Inc duly unveiled plans for a European software centre located on the outskirts of Dublin in the Republic of Ireland last week. A site has yet to be secured - although the Mountain View, California-based company said it had been working on the plans for some 18 months - and a choice will be announced within 60 days, according to Sun's chief financial officer, Kevin Melia. The firm's SunSoft Inc satellite will be the centre's first tenant, with other Sun planets such as SunTech Enterprises likely to follow soon. Dick McQuillen, formerly vice president for Sun's intercontinental operations in Tokyo, becomes managing director of the centre. McQuillen was responsible for establishing Sun's Scottish manufacturing plant in Linthgow - ironically both McQuillen and Irishman Melia have done time at Digital Equipment Corp's Galway plant in Ireland, the closure of which was formally announced last week, the same time as news of the Sun centre emerged (UX No 425). The centre will be responsible for localisation of SunSoft's Solaris 2.x operating system environment, initially handling development of device drivers and doing certification for European OEM partners - especially for customers of its forthcoming Intel Corp iAPX-86 implementation - like ICL plc, Ing C Olivetti & Co SpA and local Dell Computer Corp operations. European partners that currently have to ship systems to Los Angeles for testing will now be able to use facilities in Dublin. The centre will expand to take on software manufacturing over time. With three employees on the payroll now, McQuillen expects the centre to employ 50 by the end of this year - 200 jobs are expected to be created within three years time. SunSoft will begin recruiting software specialists from Irish University campuses immediately. Sun, which claims an installed base of some 2,000 machines in Ireland, has had an operation up and running for three years. Its 20 staff support two distributors and 11 resellers across Ireland and the six counties north of the border which make up Northern Ireland. Details of Irish Development Agency incentives granted to Sun for the establishment of the centre in Dublin were not revealed - "it is not our practice to reveal payments," a spokesman said. They will, however, be made available in the IDA's annual end of year report. Sun Ireland: +353 1 766333.

APPLE MAC-ON-UNIX PROJECT "NEARS COMPLETION"

The Apple Computer Inc Cat-in-the-Hat project which will see the Apple ToolBox, Apple's crown jewels and the source of the Mac interface, ported to IBM, HP and Sun platforms (UX No 419), is thought to be nearing completion. Sources hear that internationalisation work is underway, usually the last task before release. Apple's won effort does not bode well for the clutch of Macintosh-on-Unix houses like Echo Logic, Xcelerated Systems and Quorum Software Systems.

SIPPL SPELLS IT OUT TO THE UNIX CROWD

Roger Sippl went as a speaker to New Orleans to the Unix International members meeting last month to deliver a simple message. Wake up and smell the coffee, guys. There's no time left. The sand has run out of the hourglass. At best the Unix business has three more months to get its act together, maybe 12 months at the outside before irreversible damage sets in. A few weeks later he's not very hopeful. Microsoft has the edge and the key Unix players continue to overestimate the power of their own strategies which continue to lack the homogeneity the market wants. A case in point is the lingering issue of a consistent user interface - see front page - Sippl's advice to all of those who continue to nitpick over this is radically simple: "throw it all out and go to the Mac."

TATUNG HAS X-TERMS FOR SPARC SYSTEMS

With reports still circulating that Sun Microsystems Inc will enter the business this year, Tatung Science & Technology Inc looks to be the first Sparc cloner to go for the X terminal market. It's come up with five colour TXT systems each powered by a 40MHz TI 340x processor. They range in price from \$1,900 to \$3,800. Tatung figures they complement its Sparc boxes and can piggyback certain markets. The terminals start with a 14-inch 1024 x 768 screen with 4Mb of memory and include a \$2,900 17-inch 1152 x 900 monitor with 4Mb and a high-end 20-inch 1280 x 1024 screen with 4Mb displaying two pages of text side-by-side. The boxes implement X11r5. Memory expands to 16Mb.

IBM FLESHES OUT THE DETAILS OF ITS RIOS 2 HIGH-END RISC

IBM machines based on the forthcoming high-end RIOS 2 multi-chipset could be on the market by the middle of this year, according to IBM sources. The existence of RIOS 2 as a separate development from the IBM/Motorola/Apple collaboration on RIOS 1 or PowerPC, was confirmed at IBM's extension of the RS/6000 line last month (UX No 422). Two lines of development are necessary if IBM is to keep the performance of the RIOS RISC competitive at the same time as extending the range downwards with the single chip PowerPC - and RIOS 2 will drive forward both the integer and floating point performance of RIOS, says IBM. RIOS 2 is described as a "next-generation super-scalar RISC" with single branch, dual fixed point and dual floating point units. It will be able to execute up to six instructions (or eight operations) per cycle (compared with the PowerPC's four instructions or five operations). There will be new instructions for floating point, SQRT and convert to integer, and improvements to increase cache/memory bandwidth and reduced transaction latency. Initial implementations are not expected to be 64-bit - that should first appear in the PowerPC 620 chip, expected next year. IBM insists that, despite the implementation differences, binary compatibility between RIOS 1 and RIOS 2-based systems will be maintained, although some re-compilation may turn out to be necessary to take full advantage of new performance features. It is not yet clear as to whether RIOS 2 will be offered to IBM's PowerOpen partners, other than those who take IBM RS/6000s as an OEM product, such as Groupe Bull and Wang Laboratories Inc. An IBM source said it would be interesting to see how Hewlett-Packard, currently winning the performance race over RIOS with its PA 7100 chip, will react to the announcement.

IBM UK MOVES INTO MAIL ORDER WITH OPEN OPTIONS CATALOGUE

At the UK's IBM '93 Show in Birmingham last week, IBM UK Ltd became the first in Europe to publish an Open Options Catalogue of IBM and third party products available through mail order. The 64-page catalogue, with price list, offers products from 19 manufacturers, and promises 72 hours delivery for most product lines. Unfortunately for IBM, the catalogue does show up some of the problems it has pricing and delivering its own product lines - of the X-terminals in the catalogue for instance, IBM's Xstation 130, priced at £3,574, is both more expensive than any of the NCD and Tandberg models listed, and the only one to take 15 days for delivery rather than 96 hours for the rest. Other European subsidiaries are expected to follow the UK's example if the catalogue is a success.

POWEROPEN SHOWS ITS COLOURS

That much-heralded consortium, the PowerOpen Association Inc (POA), is scheduled to go public this Monday in Paris, and in Boston - its expected home town - on Tuesday, with all the anticipated participants in attendance - IBM, Apple, Motorola, Bull, Harris, Tadpole and Thomson. We understand it has hired a neutral to run the joint, ex-DECie Dom LaCava who had been vice president, Unix-based Software & Systems in Maynard, Massachusetts, and had the ACE Initiative reporting to him. If we recall correctly, he left in the upheaval surrounding Olsen's ouster. We've heard POA described as pretty much an AIX Users Group because it's going to come up with an ABI that's for all intents and purposes AIX. Note, even in these days of intense camaraderie, it is *not* SVR4.

PENTIUM PERFORMANCE FOR POWERPC

Based on a paper the PowerPC people delivered at IEEE's Comp-Con get-together in San Francisco two weeks ago, *Electronic Engineering Times* is saying the 601 chip sampling now is a lot more powerful than when it was first described. IBM is also positioning PowerPC against Intel's Pentium saying it will offer the same performance at a much lower cost. Significantly, the 601 will be useable in symmetric multiprocessing file servers. It incorporates new instructions, more-than-anticipated pipelining, support for single-precision arithmetic and a new cache structure. Meanwhile, the high-end 620 chip, bound for moderately to massively parallel servers, is reportedly being readied for 64-bits with a special environment mode bit that can select 32- or 64-bit operation.

SUNBEAMS

Sun Microsystems has a deal going with another Russian concern, this one operating under the improbable name Elvis+. Seems they've cut some kind of technology license and co-development pact for wireless network communications technology to be used in Sun's nomadic computing strategy. Elvis is apparently a privately held company run by one Alexander Galitsky who by repute was involved in the Soviet space programme. More of this when the pair go public March 16.

If you want to sell Solaris-on-Intel, you're going to have to be reauthorized. SunSoft is planning on releasing details of the programme it's putting together at its developers' conference later this month. It'll probably be in two levels like SunSoft's Interactive sales strategy. To qualify you'll probably have to show experience, solvency and added-value, sign up for training and promise not to disgrace the family.

Our spies think the best guess for general availability of Solaris-on-Intel is May. They say what they're seeing from SunSoft right now is a very commercially packaged product that looks to be pretty much a full-blown release but lacks PC compatibility or the ability to run SCO Unix software because of the extensions. It will however run Interactive and 386 System V.3 software. It apparently includes compilers but hardware support is slim and they'd like better graphics. Despite rough edges, it seems to have everything in it that Solaris 2.1 has and performs at the Sparcstation 2 level.

With Wayne Rosing off doing FirstPerson, Dave Ditzel has been named acting head of Sun Microsystems Laboratories, an appointment it'd be crazy not to make permanent. Ditzel, among his other credits, has been responsible for RISC and we're expecting to see some interesting aspects of his handiwork soon. Sun Labs, from whence Sun's ideas flow, figures it's handling the transfer of research to development better than practically anyone in the industry. Part of the secret is moving the people with the project.

Sun is still tinkering around with the Cypress/Ross HyperSparc chip, having apparently not found a home for it yet. It's benchmarked the widget outpacing the SuperSparc but how much remains a mystery. Of course people could buy the chip from Cypress/Ross direct and do their own MBus upgrades.

In a revelatory mood the other day Sun CEO Scott McNealy confided to Wall Street analysts that Sun has seven Sparc chip projects in development (UX No 424): the only trouble with that insight is that there are actually nine.

SunSoft Inc will have development kits for its implementation of the Distributed Object Management Framework in June. The kit will include the Interface Definition Language, borne out of its Spring research effort. Both SunSoft and Hewlett-Packard Co have DOMF implementations as a result of their collaboration in the Distributed Objects Everywhere project. SunSoft says there is only "some work" going on with HP now.

According to SunSoft president Ed Zander's view of the microprocessor world, the IBM/Motorola PowerPC would be the most likely candidate for Solaris' next port of call.

OPUS OUT OF CHAPTER 11, HAS NFS PACKAGE FOR SPARC PCs

Opus Systems Inc, Fremont, California, which has now emerged restructured from a brief encounter with Chapter 11 and the bankruptcy courts (UX No 420), has started shipping OpusFS resource sharing software to its SparcCard add-in board users. The \$200 package, the company's first software product, allows Sparc-enhanced personal computers to access NFS-based network resources such as files, printers and mass storage devices via the MS-DOS Windows File Manager. Opus will distribute through OEMs, resellers and integrators worldwide. The restructuring and getting out from under its Sparc clone business has left Opus with a creditor repayment plan for the next few years.

SUN'S FIRSTPERSON TO MOVE SPRING INTO CONSUMER MARKET

Sun Microsystems Inc has formed a software subsidiary noticeably more distant from itself than its orbiting planets called FirstPerson Inc designed to move the object-oriented technologies of Spring to the mega-volume consumer market. Wayne Rosing, the Sun executive who has overseen the Spring project for some time, has been named the unit's president. Rosing, known for playing his cards close to his vest, declined to discuss specific products or the company's intended customers. It will be licensing its software, which he said includes "some hardware support," to third parties, hence the subsidiary status. Naturally Sun may be a customer. Rosing however indicated that FirstPerson, said to be very focused, will not be in the personal digital assistant business though PDAs could use his technology. He also seemed to indicate that, despite press reports, it would not be treading on General Magic's toes either. Painting his charter with a very broad brush, he talked vaguely about software in aid of media convergence, interoperability and data exchange in all forms of digital devices including faxes, ISDN, CD-ROMs, digital TV, radios, satellites and computers. Initial product is due in two years. The unit is based in Palo Alto, California away from the corporation's headquarters in Mountain View and has about 12-15 people to start including James Gosling, author of News. It will build to 40-50 staff. Apparently FirstPerson will be technically challenged to water down the industrial-strength principals of Spring and make them lightweight enough for the mass market.

SIEMENS NIXDORF SEEKS PARTNER

Siemens AG has now acknowledged that it is looking for a strategic partner for its troubled Siemens Nixdorf Informationssysteme AG, which is facing growing woes over the next couple of years now that the German economy is plunging into what threatens to be deep recession. The new chief executive of the Munich conglomerate, Heinrich von Pierer, told the *Wall Street Journal* that he is interested in one or more "strategic partners" for Siemens Nixdorf, saying that what he is looking for is joint development and possibly manufacturing of a broad range of hardware with one or more competitors. He says he has already ruled out IBM Corp, and what makes the announcement intriguing is that the number of potential partners is so small. Although Siemens is a licensee of the Mips Technologies Inc R-series RISC family, with the right to fabricate it, Siemens Nixdorf has been diminishing its importance in its product line, making major Japanese Mips licensee NEC Corp, which is increasingly loosely allied with Compagnie des Machines Bull SA, a long shot. The remainder of Siemens' Unix product line is iAPX-86-based, as is that of many vendors. Digital Equipment Corp is now allied with Ing C Olivetti & Co SpA, and has no historic or technical ties with Siemens. Unisys Corp and AT&T Co's NCR Corp are possibilities but look unlikely. All of which suggests that the bidding for Siemens Nixdorf's hand looks like a straight fight between ICL Plc with Fujitsu Ltd, and Hewlett-Packard Co. Fujitsu and Siemens have been bes' friends for decades, and Fujitsu already supplies Siemens biggest mainframe CPUs OEM, while Siemens markets Fujitsu VP supercomputers in Europe. Fujitsu would benefit from having Siemens' muscle behind the Sparc-based product line that ICL and Fujitsu produce, and once ICL floats on the London Stock Exchange, an ICL-Siemens alliance could be presented as a "European" solution. Hewlett-Packard Co also has ties with Siemens, which buys Apollo-derived machines OEM, and is very keen to get more adherents for its Precision Architecture RISC. It was very disappointed at losing Bull's hand to IBM and the PowerPC RISC. Siemens Nixdorf's biggest problem is that it is a combination of a company that was just about to go ex-growth with one that was already failing, so it very much needs any partner to be a firm seen to be strong and a winner: Hewlett-Packard and ICL presently best fit that profile.

EO's EUROPEAN BACKER IS OLIVETTI

Turns out that all the speculation over the identity of the "major European company" to join the list of backers of Eo Inc, the developer of the Eo 440 and 880 personal communicators, was wide of the mark, and that the company is Ing C Olivetti & Co SpA. Eo builds its communicators around AT&T Co's Hobbit RISC chip, and is also backed by Matsushita Electric Industrial Co and Marubeni Corp as shareholders. Olivetti's decision comes despite the fact that it is the controlling shareholder in Acorn Computer Group Plc, originator of the ARM RISC now owned by its Advanced RISC Machines affiliate.

FUJITSU MAINFRAME MANAGEMENT

SUPPORT SYSTEM COMES DOWN TO UNIX

Fujitsu Ltd has released an open systems version of its Manasus 2 strategic management support system, which was jointly developed with the company's Fujitsu Systems Engineering affiliate. The new version runs under Unix on the DS/90 series or the Fujitsu S family and is said to differ from decision support systems in that it provides an environment and functionality for many people to make strategic use of information dispersed around the organisation. Fujitsu has to date sold the package on its M series mainframes and K-series office computers, not only in Japan, but also in Australia, South Korea and Singapore, to a total of over 200 customers. In the new Unix version, Manasus supports various database management systems, and can exchange data with IBM Corp hosts as well as M-series, via a link called DB-Express. A three-level client-server mode supports the configuration of a wide range of system configurations according to use. Fujitsu has priced the new version competitively, starting at \$3,840 for a single stand-alone client, to \$20,000 for a configuration of one server with five clients. Over the next three years, Fujitsu is hoping to sell 1,000 systems.

HUNGARY'S OPEN SYSTEMS PLAN FOUNDERS

Although the Hungarian government committed itself to open systems only six months ago, its strategy is already in disarray. Following advice from the European Commission and representatives from individual member states, the government decided in August 1992 that it would join the X/Open Co Ltd's User Council and base its procurement policy on X Portability Guide 3-branded products. X/Open jubilantly announced "The government of Hungary has become the first European administration to commit to an open systems strategy," while president and chief executive Geoff Morris hailed it as a "far-sighted decision to develop the foundations of an information technology infrastructure on a thoroughly sound open basis." The initial euphoria has now subsided, and there is obvious disappointment among those vendors that stood to gain from the policy. ICL Plc country manager Ian Leach said, "At the time we applauded the decision, but we are yet to see much evidence of major compliance." Even Janos Keresztosi, public sector accounts manager for DEC, the government's largest supplier, stated, "I don't know what the idea of the Hungarian government is. There are a lot of government departments and each has its own ideas on Unix and open systems standards." Robert Peller, deputy managing director of DEC's key partner in the country, Szamalk, even denied knowledge of the XPG3 procurement decision. Hungary was a major producer of the Eastern Bloc's copies of the DEC VAX, and DEC has been going around persuading as many users as it can to switch their counterfeit machines for the Real Thing. DEC said that it had VAX machines installed in the tax and customs offices as well as the foreign ministry, but that Ultrix boxes are confined to the education and health ministries. No Alpha-ready systems have yet been shipped into the country. Although it has lost several major contracts to Hewlett-Packard Co and Data General Corp, IBM Corp is also still mainly selling AS/400s into the public sector. According to the company's Peter Gogge, "our main revenues next year will come from the mid-range - with both the AS/400 and RS/600." IBM's implicit argument is that because it has committed to bringing X/Open Portability Guide 3-compliance to the AS/400, then this is akin to XPG3-conformance. The situation has resulted in major confusion among vendors about which machines can be offered in tendering for contracts. But the general consensus is that the government is not so much back-tracking on its open systems strategy as still trying to understand the issues involved in the open versus proprietary debate. While the government may not have understood what an XPG3 procurement policy actually meant, given its proprietary systems-based past, some blame can probably be laid at the feet of X/Open too, which may well have misunderstood the nature of the government's decision-making process. Research and development director at Data General's Hungarian partner, Microsystem, Andras Csicseri is not surprised at the way things turned out, "It's fairly typical that decisions like that are taken and then fought over. But it's still important - it's a signal." What the West would consider a binding policy agreement, he added, is in Hungary often simply a means of communicating latest government thinking to the outer reaches of bureaucracy. It is going to take a lot more than whistle-stop tours from European Community advisors to put in place all the elements the Hungarian government requires to establish a comprehensive and co-ordinated approach to procuring information technology - what it needs is knowledge that it can use to develop its own policy framework.

RAXCO ADDS SECURITY TOOLS

Digital Equipment Corp systems management software house, Raxco Inc, Rockville, Maryland, has introduced Security Toolkit/Unix 2.1, a security assessment and management tool, for client/server environments. The toolkit, designed to be used by security administrators and auditors, automates systematic security checks across a network of Unix machines, Raxco says. To do this, Security Toolkit/Unix automatically collects security data from one or more servers on a network. It interprets the data and provides summary reports to the client running the program. Security assessments include checks on user passwords, file system, network set-up, end-user files and start-up parameters. It also vets the system for viruses. Security Toolkit/Unix 2.1 includes a last login check program, menu display options, a user defined error library, and a network topology map which displays error by host. It supports OSF/Motif and Open Look graphical user interfaces and runs across TCP/IP, DECnet and NFS protocols. Security Toolkit/Unix 2.1 is available for DEC, Hewlett-Packard Co, Sun Microsystems Inc and IBM Corp workstations. The firm says Open Software Foundation OSF/1 and Microsoft Corp Windows NT support will be available by the end of the year. Security Toolkit/Unix 2.1 is priced from \$250 to \$10,000 depending upon platform.

ICL APPLIES TO OPEN IN SLOVENIA

ICL Plc has applied to register a subsidiary in Slovenia, a formality that should be completed in the next few weeks, and despite renewed conflict in Croatia, the company says it is still 'business as usual'. Croatian country manager Huw Jenkins attested that contracts are still being signed and cash is still being paid, while moves towards privatisation are freeing up budgets that were previously frozen. Jenkins is also cautiously optimistic that ICL will win a 'major strategic bid' for a contract worth £500,000 from the Croatian government.

HEWLETT-PACKARD WINS \$3m OIL INDUSTRY UNIX CONTRACT

Hewlett-Packard Co's Russian subsidiary has finalised a \$3m contract with the oil enterprise ASUNEFT, Nizniy Vartosk, northern Siberia. The company's Moscow office will co-ordinate the supply of a 700-terminal Unix-based system to be used in oil field data acquisition. Hewlett-Packard Moscow head of representation Nick Rossiter says the contract is fully paid for and took 18 months to negotiate. Hewlett-Packard's software partners are the Swedish company CMA AB and its Russian partner 2B - both specialise in supplying the oil industry. 1993 has so far been a good year for Hewlett-Packard Russia. It recently sold three Unix-based banking systems to Russian commercial banks: Elbin bank, Mostbank and Vitabank. Each system is worth around \$500,000. The First Bank of Kazakstan has bought the software element only of the same system.

ROSS PUTS FINANCIAL SOFTWARE UP ON UNIX

Redwood City, California-based Ross Systems Inc has introduced Renaissance CS, its revamped DEC VAX/VMS-based suite of financial applications and development environment, for client/server architectures. Renaissance CS is based on Gembase, the firm's own fourth generation development language. It provides multiple database support, which allows applications to be processed at client or server, depending on user requirements. It provides communication links to a variety of relational databases including Ingres, DEC's Rdb and Oracle - support for Sybase will be added by the end of the year. The client component is scheduled to ship in June with support for Microsoft Corp Windows, Apple Computer Inc Macintosh and OSF/Motif. No prices have been set for client implementations. A free server upgrade is available for existing DEC VAX/VMS, OpenVMS, Ultrix and Hewlett-Packard Co HP-UX customers. Support for Open Software Foundation OSF/1 and Microsoft's Windows NT operating systems is slated for year end. In its initial release, Renaissance CS financial applications will include a general ledger, accounts payable and receivable, purchase ordering and encumbrance and currency management. Ross will provide client/server implementations of Renaissance CS for its manufacturing and distribution software by year end. +44 272 221850

EUROPEAN ROUNDUP

Object Design Inc, Burlington, Massachusetts, will open a UK office on March 16: managing director of **Object Design UK Ltd**, Swindon, Wiltshire, is James Beagle.

Uxbridge, Middlesex-based **Delta Software International Ltd** has introduced the latest version of its application development tool, **Delta/AD3.1**. New features include multi-lingual interfaces. +44 895 814815.

Bilthoven, Netherlands-based **Four Seasons Software bv** has signed Czech Republic distributor **Komix**, Prague to market and support **SuperNova**, its applications development environment. **Komix**: +42 2 311 2838 or **Four Seasons**: +31 30 252315.

Isle of Man-based **RTS Ltd**, has been signed by **WNDX Corp**, Calgary, Canada to market the **WNDX Portable Development Tools**.

Siemens Nixdorf Informationssysteme AG is to sell **Frame Technology Inc** publishing software on its platforms.

Amsterdam, Netherlands-based **Baan International bv** has introduced **Triton EIS**, an executive information system for selecting and presenting management information, and a multimedia toolkit designed for systems integration. Both products are scheduled for release in May and will be available through UK distributor **Agility Business Software Ltd**, Bristol. **Baan**: +44 454 614163.

San Rafael, California-based **Z-Code Software Corp** has signed UK firm **Admiral Software Ltd**, Camberley, Surrey, to distribute **Z-Code's** line of graphically oriented e-mail products, **Z-mail** and **Z-mail Lite**.

Long-time open systems advocate, **Bernard Hulme**, former vice president of worldwide marketing - more lately director of vertical marketing programmes in Europe - for **Santa Cruz Operation Inc** has been appointed vice president, field operations, Europe, Middle East and Africa at the Unix software firm.

As it said it would eventually, **Compagnie des Machines Bull SA** has begun manufacturing the **IBM Corp RS/6000** systems it resells as its **DPX/20** line at its plant in Angiers, France.

ICL Plc opened an office in Romania last month with the announcement that it had won a £1.6m contract, funded by the European Community's **PHARE** programme, to supply the **Romanian National Commission for Statistics** with four **DRS 6000s**, 25 **80486** desktop personal computers, an **Oracle Corp** relational database management system and statistical analysis system, plus training and support. The new system will replace two **ICL** mainframes, installed in 1966 at headquarters in Bucharest, and at another site in Ploiesti. **ICL** is also tendering for the next phase of the project to install systems in 40 regional offices. **ICL** said the contract was the largest of its kind in the country. Although the group only established a presence in Romania last year, it expects to treble existing staff numbers to 15 by the end of 1993.

The UK's **Manchester University Computing Centre** will soon boast the largest single computational node in the UK when it replaces its **VP1200** supercomputer with a **VPX240/10** machine from **Fujitsu Systems Business (Europe)**. It is the first **Fujitsu VPX** machine to be sold in the UK since last year's launch and features one scalar processor, one **2.5GFLOPS** vector processor, **1Gb** main memory, **1Gb** of secondary memory; it is four times faster than the five-year-old system it is replacing and will be used for computational fluid dynamics and engineering research. Delivery is planned for July, no price was given.

AT&T Istel is now offering an **RS/6000** version of its **Witness** simulation modelling software.

Three new members have joined **X/Open Co Ltd's** User Council: **Uniforum Sweden**, **Logica plc** in the UK, the French government's **Permanent Group for Market Studies in Informatics and Communications** and the **Interministerial Committee on Information Technology and Office Automation in Government**. **X/Open's** User Council numbers 63.

IBM Corp is to supply the Norwegian government's Supercomputing Committee with two **RS/6000 PowerServer 980s** and 12 **Model 580** workstations linked as a cluster: hosted by the **University of Oslo**, the installation kicks off a three-year joint venture project between **IBM** and Norway's supercomputing centre.

Sheffield, Yorkshire-based **Prophecy UK Ltd** has signed **Manufacturing Software Portfolio Ltd** to sell **Prosper**, its financial and business management software.

HyperSoft Europe Ltd, Hassocks, West Sussex, says the **Alan Cohen Consultancy Ltd AL/1** software package it markets as **Application Browser** is not a **Cobol-to-C** converter, but a code analyser and transformer which can prepare **Cobol** programmes for migration from any platform (**UX No 422**): +44 273 834596.

Informix's, UK managing director, **Malcolm Padina**, has called for a new initiative to purge the Unix market from software pirates. **Padina** a board member of the **Federation Against Software Theft (FAST)**, hopes to establish a **FAST** subcommittee to deal with the problem.

UK firm **Summit Group**, Colchester, Essex has introduced a **50MHz Intel Corp-based 486DX** graphics workstation, called the **summ/ix server**: the base configuration has **16Mb RAM**, **1Gb disk**, **CD-ROM** and **Santa Cruz Operation Inc's Open Desktop 2.0** - it is priced at **£8,000**. +44 206 761922.

Bull Information Systems UK Ltd wants everyone to know it has installed **700 DPX/2** Unix servers and **15,000** diskless workstations at the UK's **Inland Revenue Office** as part of the four-year **£50m 1991 Iron** contract (**UX No 339**): by 1994 **Bull** says it'll have put a further **300** servers and **10,000** workstations in place.

VI Corp Europe has introduced version 3.0 of its **Motif-based X-Designer** graphical user interface development tools: the new release supports **Motif 1.2**, **C++** code generation and integrates with **FrameMaker** desktop publishing software and the **CenterLine Inc CodeCenter 4** workbench. +44 734 892111.

Sense8 Corp, Sausalito, California, has signed German firm **Media Systemes GmbH** and **Technologia Virtual SA** in Spain to distribute its real-time graphics simulation development environment, **WorldToolkit**, in Europe.

Adus/UK, Bicester, Oxfordshire, the **HP/Apollo** workstation user society, has re-christened itself **HP/Works** to reflect an expanding role and growing user base, the group says: the new-styled outfit will introduce itself on **March 31st** at its annual general meeting. +44 869 321080

Meanwhile, the **Hewlett-Packard Co Computer Users European Conference** takes place at **Birmingham's International Convention Centre** between **June 27 and 30**: keynote speakers include former **British Prime Minister Edward Heath**, "Father of **PA-RISC**" **Joel Birnbaum** and **Microsoft Corp's** European managing director.

Caterham, Surrey-based **Object Management Ltd** is offering **Object International's MacroScope** application development and integration environment in the UK: +44 883 349339

In the UK, **Bristol-based Ampersand Systems Ltd** is to market **VMark Software Inc's** **PI/Open** database - formerly owned by **Prime Computer Inc's** **Computervision** outfit - to **Prime 50** series system users. + 44 275 374477

In the UK, **Wyse Technology Ltd** will offer **Microsoft Windows NT** on a three-CPU **Series 7000i/NT Intel Corp 80486-based** machine, with **420Mb disk**, priced at **£15,100**. +44 734 342200

UK, **Coventry-based Tangram CAE Ltd** has ported its **Swif CAD/CAM** software to **HP 700** series workstations.

Darmstadt, Germany-based **Software AG** is putting its core products, **Natural**, **Adabas** and **Entire Net-Work**, on **Sparcs** under **Solaris 2.1**, expecting them to ship by the end of the first quarter: the software is also now available on **UnixWare**.

Boston, Massachusetts-based, **Pilot Software Inc** says its visual information access and analysis software, **LightShip** now supports **Microsoft Corp's** **Windows NT**. Additionally, its command Centre executive information system is now available for **DEC Alpha AXP** and **Sun Microsystems Inc Sparc** platforms. **Pilot UK**: +44 932 569944.

Managing director of **Madrid firm Digital Systems Development SA**, **Almerino Furlan**, has denied rumours of a deal with **Microsoft Corp** to distribute **Windows NT** and reaffirmed a commitment to **Unix**.

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Datapro Canada, Unican and Uniform Canada are holding the **Fourth Annual Executive Symposium on Open Systems & Client/Server Computing** at the Sheraton Centre in Toronto April 6-8. They've rounded up people like Doug Michels of SCO, Roel Pieper of USL, John Paul of Compaq, Jon Gossels of OSF, Bill O'Shea of NCR, Heinz Lycklama of Open Systems Technology Associates and George Shaffner of X/Open to speak. The programme looks very thorough. It's \$945 to attend. +1 800 668-9308

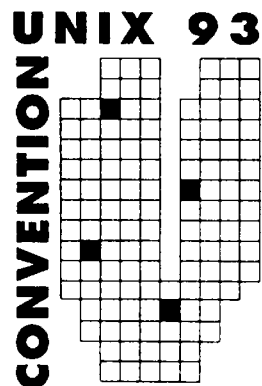
NCR Corp has released version 2.1 of Cooperation, its integrated software environment, for client/server environments, which runs on System 3000 machines and personal computers clients. It supports Windows 3.1, Lotus Notes and HP NewWave 4.1. A basic 10 user licence costs £3,500.

Sunnyvale, California-based **MasPar Computer Corp** will roll-out upgrade boards for its MP-2 massively parallel computers next month. The MP-2 line use custom 32-bit, 133 MIPS RISCs and are configured with up to 16,000 of the things. The firm claims it will boost MP-2 system performance ten-fold over the next 18 months.

As a consolation prize for losing the post of president at **IBM Corp**, Jack Kuehler has been drafted onto the board of **Taligent Inc**, IBM's object-oriented operating system joint venture with **Apple Computer Inc**, replacing Bernard Puckett.

Sparc International on the Novell Inc/Unix System Labs takeover: "There is a large amount of information that is unclear regarding the impact of this purchase. Initially, we anticipate that there will be more Novell NetWare content in Unix....Potentially, having Novell run Unix as a 'business' would be beneficial to the Unix community as it would drive for unification around a central Unix implementation."

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InformationWeek quotes **Taligent Inc** chief executive officer, Joe Guglielmi, as saying his folks have a version of its object-oriented operating system up and running on an Apple Macintosh Quadra. Taligent, which intends publishing specifications this year followed by a developer's kit, has also written some low-level applications for the system along the lines of Apple's MacDraw. The final system is due in 1995.

As reported (UX No 424), **Unisys Corp** will introduce the U6000, desktop system configured for Univel Inc's Unixware, on March 25.

Intel Corp is saying its revamped Pentium floating point unit operates three to 10 times better than the 80486's, apparently positioning it against RISC chips like the Mips R4000.

Lotus Development Corp has lured **Cognos** president Jeffrey Papows over to its side to run its Notes Division as vice president, a newly created post reporting to John Landry and June Rokoff who head the company's development programme. Meanwhile Unix veteran Larry Crume, who had been running Lotus' mobile computing interests, has been assigned to run cc:Mail.

The Object Management Group and QED Publishing Group are teaming up to publish and distribute books on object technology including stuff like OMG's scintillating Common Object Request Broker Specification and Architecture. They will also begin a book series whose titles deal with distributed applications, object analysis and design and object technology costs and benefits.

Dell Computer Corp has withdrawn a planned offering of four million shares of common stock citing unfavourable market conditions. It is going to look for other ways to finance growth.

Dan Ellis, ex-president of **JD Edwards**, the big AS/400 software house, has teamed up with Pyramid co-founder Rob Kelly to start **Capri Software Inc** in Boulder, Colorado. The year-old outfit will be writing financial, manufacturing and distribution C++-based software for client/server platforms starting with DEC and Sun. The boys have come up with their own application development environment which they will also be selling on to users.

HP is reckoned to be spending \$1bn annually developing of its PA-RISC chipset.

An **Intel Corp** observer says the company is really competing against system makers **IBM**, **HP**, **DEC** and **Sun**, and maybe **SGI/Mips**. His point is that Intel is bound to a policy of moving more and more of the system on to its chips until all the hardware vendor will be adding is a couple of lead wires. He also says Intel is very conscious of the potentials of the computer/communications tie-up and is dreaming of a worldwide network data repository under its thumb. Strategic alliances came up. So did the name **AT&T** and the words "information utility".

IBM is readying OS/2 2.1 - now in beta testing - for introduction at Comdex Spring in Atlanta, Georgia.

There's a rumour doing the rounds that **Sun-Soft Inc** is interested in acquiring **Santa Cruz Operation Inc**.

Revolution Technologies Inc in Natick, Massachusetts has come up with PowerDrive, software to transparently increase the file storage capacity of Sparc boxes: the company says it compresses files 50%. It works with text files, object files and executables. +1 508 650 1490

Palo Alto, California-based **Legato Systems Inc** has agreed to provide its Transport Independent Remote Procedure Call (TIRPC) tool kit to **Novell Inc** in exchange for Novell's LAN Workplace TCP/IP stack. The Novell product will be bundled with Legato's Networker in its ClientPak II configuration. Users using DOS clients on a NetWare LAN will be able to do on-demand backup of DOS and Unix applications by backing them up on a Unix or NetWare server configured with TCP/IP. IBM has also licensed NetWorker to market it to RS/6000 sites.

ProActive Software Inc has agreed to link its customer support software with **Aspect Telecommunications Inc's** CallCenter automatic call distributor via Aspect's Application Bridge, a high-functionality phone-to-computer system link.

Walnut Creek, California-based **PeopleSoft Inc** has set up PeopleSoft International appointing Richard Hess as managing director, international operations. He was general manager, international at **Objectivity Inc** and before that chief executive officer of Oracle/East Asia.

Open Software Foundation chief David Tory has begun expressing hesitancy about the **Novell Inc** acquisition of **Unix System Labs** in the US press, noting Novell's tendency to go its own way and expressing curiosity about how it will handle the USL infrastructure. Tory said Novell has become a lot more interested in OSF since the acquisition agreement, the implication being that Novell was interested in USL's version of OSF's DCE software.

Pyramid Technology Corp has picked executive vice president, Ed Scott, and former US sales vice president, Robert Buhl, to team up together to develop and manage the company's technology and strategic partnerships with vendors and integrators worldwide. The move is part of the firm's four-month-old **Open Data Center** strategy. Buhl has been named vice president, strategic partners, reporting to Scott. Pyramid's chairman, Richard Lussier, will assume management of the company's direct sales organisation and marketing oversight will fall to chief operating officer John Chen. Mitchell Mandich, formerly **Tandem Computer Inc's** western region sales director, is vice president for the Americas responsible for sales in the western hemisphere and reporting to Richard Lussier.

DJ Long, the vice president of marketing who left **Applix Inc** two weeks ago (UX No 424), has turned up in a similar capacity at **Rosh Intelligent System Inc**, the Aurum-like turnaround former **Uniplex** chief Jeff Waxman is now heading up.

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SUN MICROSYSTEMS OUTLINES LONG-TERM SPARC RISC PLANS

Sun Microsystems Inc will be building its next-generation workstations and servers out of a family of 64-bit multiprocessor chips it's designing called UltraSparc. These chips should take Sun machines close to the end of the decade. Internal chip design, which began at the same time that HaL Computer Systems started developing its own proprietary 64-bit Sparc chips, aims at producing a 500MHz microprocessor part by the fourth quarter of 1996. This high-end UltraSparc-III will be preceded by the UltraSparc-I and UltraSparc-II. Sun plans several iterations of each of the three family members. It expects to have early silicon of UltraSparc-I in the fourth quarter of next year. UltraSparc boxes could begin appearing later in 1995. If HaL meets its reported dates, it could beat Sun to market with a 64-bit system - but it is Sun which expects to create a high-volume 64-bit market supplying both its own needs and those of its cloners. HaL is unlikely to sell its chips on the open market. Sun also revealed details of near-term Sparc developments with its SuperSparc and MicroSparc (Tsunami) efforts. Details, page 7.

JUDGE LIFTS RESTRICTIONS ON BERKELEY SOFTWARE DESIGN UNIX

Unix System Laboratories has suffered a surprise setback in its suit against Berkeley Software Design Inc for copyright infringement and misappropriation of trade secrets. US federal judge Dickinson Debevoise earlier this month denied USL's pre-trial motion for a preliminary injunction halting distribution of any of BSDI's BSD/386 code. The decision lifts restrictions placed by the court on BSDI several months ago forbidding it from distributing advanced BSD/386 beta code or and production software (UX No 413). It intends shipping production code for the first time this week, saying it has hundreds of orders. USL made its motion based solely on its copyright claims anticipating a victory at the upcoming trial and a court-ordered permanent injunction. The court denied the motion based on its finding that USL has no valid copyright on 32V Unix, an early 1978 version of the software from which Networking Release 2 (Net2), the University of California, Berkeley code derives. BSDI's BSD/386 in turn derives from Net2 and the court found that Net2 was in fact derived from 32V. USL is appealing the judge's decision claiming he is mistaken on a matter of law. Although a very early copy of 32V may have carried a copyright notice, it was removed based on the then-prevailing legal opinion that a copyright notice implied general circulation which, if true, would taint 32V's trade secret protection. USL maintains that 32V was a limited publication, further restricted by contractual restraints and subject to limited publication law and therefore did not require a copyright notice. The judge however found that it was published, the ruling USL is contesting. The court was not asked to rule on any of USL's trade secrets claims, according to USL's chief counsel Sandy Tannenbaum. Whether or not USL is successful in its appeal, it believes it can still win its case on its other claims of misappropriation, misrepresentation, trade mark infringement and breach of contract.

NATIVE MAC APPLICATIONS UP ON POWERPC

Apple Computer Inc previewed its forthcoming Macintosh Application Services software for the PowerPC RISC chip last week at the launch of the new PowerPC supporters club Power Open Association Inc. The software, which will include a native implementation of the Macintosh Toolkit for the PowerPC architecture, allows the Macintosh Finder and well-behaved Macintosh applications to run within an X-Window on PowerPC and IBM RIOS-based systems. The demonstration, using an IBM RS/6000 Model 560 - said to be the equivalent of a PowerPC system - was shown running WordPerfect for Macintosh "faster than the fastest Quadra", according to PowerOpen's new president, Domenic LaCava. The demonstration was based on technology provided by AT&T-backed start-up Echo Logic Inc, and contained "no emulation at all", according to Echo's Brad Burnham. But licensing details have yet to be agreed, and availability is expected to be late this year or early next. Technology for platforms other than the PowerPC appear to be even further down the line. Details, page 7.

COSI "IN THE BALANCE"

Will they or won't they? Hewlett-Packard and IBM Corp were still vacillating over whether or not an announcement of the COSI Common Open Systems Interface initiative would be forthcoming on March 17th at UniForum in San Francisco (UX No 424, 425). Although originally IBM's idea, HP now appears to be taking the lead - but the inclusion of other companies such as SunSoft and Novell Inc is far from assured. The original idea is in danger of becoming diluted, and if everyone's technology and operating systems have to be accommodated, the danger is that - like the ACE Consortium - the result won't add up to anything at all.

OSF BOWS TO PRICING PRESSURE

OSF is apparently bowing to DCE user pressure and will announce significant price reductions for one-time DCE licenses, distribution rights and royalty fees at Uniform on March 17. OSF admitted that calls from big industry players such as Novell Inc, who've shied away from committing to DCE until now, persuaded the organisation to reconsider its pricing policy (UX No 424). OSF was also inundated with complaints about its complex price list, which has at least two dozen options - covering everything from object code fees, optional services and royalty guidelines. Currently ISVs that want to build applications pay \$15,000, and hardware vendors implementing DCE code into their operating systems pay \$150,000 for full distribution rights. However, on top of these fees there are royalties for each unit shipped, which can range from \$5 to \$75.

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CONTROL DATA SYSTEMS WANTS EVERNET

Now that it has flown the nest and decamped to Arden Hills, Minnesota, Control Data Systems Inc feels confident enough to start making acquisitions, and for its first, it has gone for Evernet Systems Inc, a Los Angeles network systems integrator that sells NetFrame Systems Inc servers. It has signed a letter of intent to acquire the \$40m-a-year company for an undisclosed sum in cash and shares. Evernet claims to have installed over 175,000 nodes in more than 5,000 networks across 48 US states and in Europe, Asia, Canada and Mexico as well.

PARALLEL PROCESSING: TWO PACTS GET KENDALL GOING

The mission of Waltham, Massachusetts-based Kendall Square Research Corp is to bring what it sees as the benefits of highly parallel computing to the commercial market, and the company is on its way with the signing of its first two customers, airline operator AMR Corp and direct marketing services company Neodata Inc. AMR Corp, parent of American Airlines Inc, has agreed to take delivery of a KSR1 later this year and signed a letter of intent to collaborate for five years on a project to simplify the task of analysing and manipulating massive amounts of data. With Neodata, and its partner on the project, Electronic Data Systems Corp, Kendall Square is working on a project to create the largest production of relational database in the commercial sector, consisting of more than 1Tb of data when it is complete this autumn. Oracle Corp will supply the software development environment to Electronic Data Systems for the NCORE Neodata Customer-Oriented Relational Environment with the aim of combining the power of an extensive marketing environment with a highly optimized and efficient operational engine to deliver an array of flexible services to the direct marketing industry. The services will be integrated through a single customer database that will provide a comprehensive view of psychographic, syncographic, demographic and order history data, all to be held on a KSR1 running Oracle7 at Neodata's Boulder, Colorado database marketing arm. A second KSR1 is going to a General Motors Corp lab in Detroit for development and conversion of systems management tools.

LONDON STOCK EXCHANGE PULLS BACK ON TAURUS

The London International Stock Exchange last week voted to bring the costly Taurus paperless trading fiasco to an end and kill the project. The Bank of England established a task force on securities settlement following an approach by the Stock Exchange, to consider the best way forward for development of securities settlement, share registration and share transfer in the UK. It will identify possible alternatives to Taurus, having regard to speed of implementation, cost, ownership, governance and financing, as well as system structure, and will recommend a preferred option, make recommendations for managing its implementation, and report to the governor of the Bank of England by the end of June 1993 at the latest. The abandonment of the project, which cost the Exchange £75m and City firms preparing for it a lot more, cost 220 direct employees and another 130 contractors their jobs.

INFORMIX FOUNDER SIPPL READY WITH NEW CLIENT-SERVER VENTURE

Roger Sippl, the retired founder of Informix, wants to be back doing what he's good at; running a software company. So he's building another one, hoping to call it Very Visual Software. It's not a unique product plan as Sippl himself is first to admit. He's watched the success of companies such as PowerSoft Corp and aims to cut himself off a slice with a new cross-platform client/server graphical desktop development environment to build database applications. Using object-oriented 4GL technology, his differentiator in this mature market will be the extremely visual part, the goal being to practically force developers to write friendly software. Naturally stuff like that would find a home amongst large corporations with their huge staffs of determined non-computer literates. Applications can be like teaching machines, coaxing users to the right choices without penalties, says Sippl. The next stage is shopping for components, such as forms software, and raising an initial \$2m to help with the funding over the next couple of months. Depending on how well Very Visual does, it'll probably take \$5m-\$10m before it's cash-flow is positive. Windows, DOS, NT, Motif and Mac on the client side and Unix and NT on the server side are likely to be encompassed. Beta versions are not in the plan before the end of the year. Sippl, who rues the fact the Unix industry can't agree on a common desktop interface (UX No 426), reflects that it's "scary that one vendor is about to take over what we spent a decade building" largely because he offers the customer homogeneity. Sippl is also involved in groupware start-up ProActive Software Inc, (UX No 394).

APPLE WILL LAUNCH LOW COST SERVERS AT CEBIT

Apple Computer Inc will launch its first family of network file servers at CeBit, in Hannover, on March 25, according to US press reports. To be called Apple Workgroup Servers the machines are based on the Apple Centris 600 series and Quadra 800 and 950 platforms. Designed to provide file and print services and database support for from 15 to 50 users, the servers will comprise three systems: the AWS 95, AWS 80 and the AWS 60. The AWS 95 is based on the 33MHz Motorola Inc 68040 Quadra 950 and comes with a high-performance I/O card and a Unix-based version of AppleShare, Apple's file server software. It will ship with A/UX 3.0, the firm's new implementation of Unix. The AWS 80 is a revamped 25MHz 68040 Quadra 800 and comes with AppleShare 4.0, a new version of its network software developed to run under Apple's Machintosh System 7 operating system. Apple's low-end machine, the Centris 610-based AWS 60 is also configured with AppleShare 4.0 and the System 7 operating system. The Centris-based server will sell for around the \$5,000 mark and the Quadra boxes will go from \$10,000 to \$20,000. Client-server document management software may also be launched at Cebit.

DEC TO OPEN UP ITS ACMS TRANSACTION PROCESSING MONITOR

Digital Equipment Corp is expected to make its move into the open systems on-line transaction processing marketplace this month with OSF/1 and Windows NT versions of its ACMS Application Control and Management System. DEC is likely to add an open application programming interface to ACMS, which has previously only been available on VMS-based server platforms. Both Alpha and Intel versions are anticipated. DEC is also thought to be considering marketing the software for non-DEC hardware.

ICL HAS SOLARIS-COMPATIBLE SVR4.2 FOR DESKTOPS AND SERVERS...

ICL Plc has incorporated Solaris compatibility within its new Unix System V Release 4-compliant operating system, due to be launched at UniForum. DRS/NX version 7, its implementation of Unix System Labs' SVR4.2 desktop operating system for Intel and Sparc platforms, includes X/Open XPG4-compliance, multiprocessing support, and support for both OSF/Motif and Open Look interfaces. ICL promises compatibility with SunSoft Inc Solaris 2.x applications, and says that Solaris users will also be able to access ICL SVR4.2 applications. Version 7 comes with disk striping, disk mirroring and file management functions, a set of graphic monitoring and administration tools and C2 level security. Other features include print, restore and backup facilities and support for Novell Inc's NetWare, TCP/IP, SNA, X.25 and OSI protocols. Details of pricing for the Sparc server version will be released when it ships in April. Support for Pentium machines will be available by the end of the year. DRS/NX version 7 for Intel is priced from \$500 to \$1,600. DRS/NX will become ICL's mainstream Unix implementation on both desktops and servers, and there are upgrade paths for current SVR4 users. It will be sold through ICL's existing direct and indirect sales channels and in Europe by Technology Plc - its personal computer and peripherals subsidiary. ICL says it is also encouraging Solaris ISVs to market the product.

...INTRODUCES ACCESS SECURITY SOFTWARE FOR CLIENT PCs

ICL will also introduce Access Manager 200, which allows users secure single point of login to enterprise-wide networks from PCs. The Windows-based client environment supports Microsoft Corp's LAN Manager/X. It includes workstation security - which can restrict users' access to specific applications - multiple secure window options and personal ID passwords. Sparc DRS 6000 and Intel Corp-based DRS 3000s are supported as hosts, with Sparc client support by the end of the year. Available next month, priced at \$200 per licence.

OSF ENHANCES DCE, OUTLINES DISTRIBUTED COMPUTING ROADMAP

The Open Software Foundation will release the next major implementation of the Distributed Computing Environment, 1.0.2, and announce a new pricing structure for the technology at Uniforum in San Francisco this week. DCE 1.0.2 will include enhancements to its security services such as single point of failure facilities and improvements to relational database security access. It has also refined the Distributed File System to enable it to handle things such as groups of files instead of single lines of files, as well as getting rid of a number of DFS bugs. OSF will start shipping DCE 1.0.2 developers' kits in the next 90 days. It claims over 1,000 ISVs have already signed up for the new version. OSF also outlined the DCE roadmap for the year. The next release of DCE, version 1.1, will incorporate internationalisation specifications and initial integration requirements for the Distributed Management Environment (DME) Distributed Management Services - which is due for release in September. It will include hierarchical cell and audit trail services and provide provisional OSI specifications. The fourth release of DCE is scheduled for the end of the year, when OSF will offer integration specifications for DME's Management Framework services. It will also include object-oriented support, conforming to Object Management Group specifications and on-line transaction processing facilities. Final OSI requirements will also be included. OSF will also introduce a suite of validation tools for DCE this week, at the cost of \$20,000.

QUORUM'S EQUAL MAC ADAPTER GETS FIRST SHOWING

Mac-on-Unix house Quorum Software Systems, a hit at last year's Uniforum, this week will stage the first public, albeit belated, showing of its end-user product Equal at the Silicon Graphics and Sparc International booths. Equal, originally due in December, is now scheduled to ship in the second quarter. Quorum, who says some of the blame for Equal's delay has been on the legal hassle it had last year with Apple (UX No 393) which held up financing and staffing, will position Equal as a Mac application adapter rather than an emulator. The company's research has found that users are interested in running Mac programs native under Motif out of performance considerations and have little truck with bulky emulators. Luckily Equal is not an emulator. Quorum also found 80% to 85% of its potential audience are interested in running just off-the-shelf Mac packages of Word and Excel which is what Quorum is currently polishing up and will be showing. It says other programs run, but the company will have to ward off criticism that it does not have a significant inventory of tested packages. Quorum will also announce a long-awaited deal with Adobe Systems Inc to license its software developers' Latitude for porting its Mac programs to the Unix platform under Display Postscript, Motif or Open Look.

HUMMINGBIRD READIES NEW X SOFTWARE FOR WINDOWS NT

Canadian X Server software house Hummingbird Communications Ltd of Markham, Ontario, will introduce three new products at Uniforum this week, including exceed/NT, its new X-Terminal software for Microsoft Corp Windows NT; exceed/Xpress, a suite of products that access X applications over serial lines; and an OSF/Motif toolkit. It will also announce enhancements to exceed/W, its flagship X server software. Exceed/NT will enable users to concurrently access X Window clients and applications running under Windows NT. It includes two windowing modes, which allow users to execute X clients and local MS-DOS, Windows and NT applications at the same time; X11R5 scalable fonts, font server and XDCMP security. It supports Microsoft's TCP/IP Windows Socket Transport API, as well as a window planner and plane mask support. The software also includes Hummingbird's XDK developer kit, which enables users to port applications to and from personal computer and Unix environments. Xlib, Xt intrinsics, Xaw and Xmu libraries are also included. Exceed/NT will be available at the end of the month and is priced at \$600. Exceed/Xpress enables remote PC connectivity to X Window applications via modem or by RS232 serial connection. It is priced at \$250. The OSF/Motif Toolkit will enable users to develop Motif X Window clients on a personal computer rather than a remote host. This costs \$150. Hummingbird will also introduce version 3.3 of exceed/W, its personal computer X Server software for Windows. Enhancements include Telnet support for VT220, a Microsoft Windows Socket API and non-X application support using Xstart, which starts up the application on the host system. Exceed/W also supports Univel Inc's Unixware. No prices were given. +1 416 470 1203.

SANTA CRUZ PENTIUM COMBINATION "HAS NOT BEEN RECOMPILED"

At the Cebit Hannover Fair towards the end of this month, the Santa Cruz Operation is expected to launch its SCO and Intel Corp Pentium combination under the banner Power Now. Does this mean that SCO has re-compiled its operating system to take full advantage of Pentium's performance? Not according to our sources at the company. That means that the product has not been optimised for the 486 or Pentium, and won't take account of Pentium features such as the dual pipeline, or work around some of the clock cycle quirks that emerged in the 486 post technical documentation. It all sounds as if the compiler technology - an essential element of the Pentium's claimed performance benefits over the 486 - isn't quite there yet. Watch this space.

UI HELPS DEVELOPERS PORT BETWEEN SVR4.2 AND SOLARIS...

Unix International will use UniForum to launch a guide to the porting differences between Unix System Labs' SVR4.2 operating system and Sun Microsystems' Solaris, in an attempt to counter the widely-held perception that the two are incompatible. UI worked with both USL and Sun on the guide, along with a third, unidentified company. It doesn't rule out the possibility of further guides covering other similar, but not identical, Unix implementations. UI also promises a detailed study of downsizing, with case studies of Burlington, the Toronto Stock Exchange and Motorola Inc, including the costings. And it will introduce a new affiliate membership level to Unix International for VARs and software houses who don't need the detailed specs that come with Associate membership. The price will be well below the current \$10,000 associate membership fee.

...PLANS THREE REFERENCE TECHNOLOGY SEARCHES THIS YEAR

Having opened up the process of selecting technologies that surround the core SVR4 operating system beyond Unix System Labs (UX No 42), Unix International plans to go to the industry at large for three technologies this year, according to UI president Peter Cunningham. The first will be for a standard way to support multi-media applications under Unix. The second will aim to cover the implementation of distributed object management, following specs already laid out by the Object Management Group. The third area was not revealed, but it is thought to cover a Unix alternative for the Microsoft object linking and embedding and dynamic data exchange technologies. Any company can submit technology, and UI members vote to find the winner. The provider of a selected technology must agree to provide specs, APIs, test suites and general availability before being accepted.

LUCID HAS NEW VERSION OF ENERGISE - LOOKS BEYOND SPARC

Lucid Inc is promising to release a new version of its Energize C++ application development environment, launched a year ago (UX No 366). It also has a new release of its native C++ compiler, bringing it up to Version 3.0 compatibility, and will be announcing the availability dates for Solaris 2.x products. Lucid expects to see revenues from its C product lines overtake those of its original LISP products sometime next quarter - it says that LISP is a niche (though still growing) market, and that the market for C products is from 10 to 20 times larger. Currently concentrating on Sparc-based hardware, Lucid has an agreement with NCR Corp that will see its compiler technology and Energize ported onto the Intel 486 under Unix SVR4 and SCO Unix: compilers have already been ported to the IBM RIOS chip, and Lucid has its eye on Hewlett-Packard's PA-RISC.

MAC APP SERVICES POINT TO BINARY TO BINARY TREND OVER EMULATION

The Macintosh Application Services software previewed at the IBM PowerOpen launch last week (see page 1) is an indication of the growing popularity of binary to binary conversion techniques over straightforward emulation, which is still associated with poor performance. Such technologies are becoming available not only for the Macintosh, but also for Microsoft Windows, and are likely to be in evidence at UniForum this week. Macintosh Application Services includes the Macintosh System 7 Finder (although System 6 was demonstrated), a Motorola 68040 emulator, the native toolkit, and Macintosh System Services for memory management and input/output to files and devices. The portions of the application that do have to be emulated can be loaded in via floppy disk. Many Macintosh applications, such as PageMaker and Quark XPress, spend up to 90% of processing time within the Toolbox, according to Apple, which is why a native implementation was developed. A multi-mode code switcher will allow 680x0 and new PowerPC applications code to run side by side. Holmdel, New Jersey-based Echo Logic Inc provided Apple with its FlashPort tools to help the effort along, producing a binary to binary translation of the 68000 code and producing native Power PC code. Echo President Brad Burnham says the major technical feat is FlashPort's "aggressive static analysis software that can follow the flow of control from the Macintosh ROM, transforming the application to conform to the native execution model of the PowerPC". But it is not yet clear if the Echo technology will be used in production release software from Apple, as there are at least two separate ongoing efforts within Apple to move the Mac environment over to the PowerPC, one using a large amount of translation, the other a large amount of emulation. Those working on the eventual PowerPC version of the Apple Macintosh, as opposed to providing a Macintosh environment within an X-Window under Unix, are thought to favour the emulation model at present. That box is due out early next year. The "cat in the hat" effort that will see the Macintosh environment on other RISC processors, appears to be a different effort again, and may be a long way down the road, licensing issues aside. Rival software houses such as Quorum and Xcelerated Systems are not unduly worried. "Apple is trying to create fear, uncertainty and doubt", said Nick Sturiale of Quorum. "They've been showing this stuff for two years".

UNIFORM ROUND UP

Locus Computing Corp will introduce PC-Interface Plus, an updated version of its widely-used PCI product line that enables Unix, MS-DOS and Macintosh users to share files, printers and data across networks. It includes better network printing capabilities, the TinyTerm terminal emulation set and the ability to run multiple, concurrent terminal emulation sessions. +44 442 236111.

Bristol Technology Inc, Ridgefield, Connecticut, has announced the availability of its Wind/U, software (UX No 385) that enables Microsoft Corp Windows applications to run as native Unix/Motif-based applications. Windows applications ported to Unix will maintain their Windows functionality, including features such as PostScript, combo boxes, multiple document interfaces and dynamic data exchange. Wind/U is priced at \$10,000. +1 203 438 6969.

Look out for the Unisys Corp stand this week, it'll be demonstrating the U6000 PC, its new Unix desktop system configured for Univel Inc's UnixWare behind the scenes.

UNIFORUM ROUND UP

Albuquerque, New Mexico-based **Basis Inc** will demonstrate **BDxProgression/4**, its revamped third generation application development environment for client/server environments. **BDxProgression/4** software enhancements include a new set of data dictionaries, file system extensions and communication links into relational databases such as Oracle, Sybase and Informix. It also provides migration links to the firm's fourth generation language tool, **BDx/4**. **BDxProgression/4** supports Santa Cruz Operation Inc SCO Unix and IBM's AIX.

Cumulus Technology Inc, Palo Alto, California will announce **Personal Touch**, a full-featured Window manager for the **Cumulus Alpha Terminal**. It enables users to move, resize or select windows and other on-screen features by point and click or through hot key commands. OSF Motif or MS-DOS style windows can be selected at set up. It provides start-up dialogues, macro dialogues and exit dialogues to open and close applications. Open applications can be displayed as full-screen, stacked or tiled windows depending upon user requirement, it says. +1 415 960 1200.

Dublin, Ohio-based **Information Dimensions Inc** will introduce **DOCworks**, a document management system for client/server environments. It can review and edit images, graphics and spreadsheets, and provides links into relational databases such as Oracle, Informix and Sybase. **DOCworks** supports Novell NetWare, PC/NFS and DEC's Pathworks protocols. It runs on Sun Microsystems Inc Sparcstations, Hewlett-Packard Co HP 9000s, Unisys Corp U6000s and IBM's RS/6000s. +1 614 761 7262.

Macintosh software emulation developer, **Tenon Intersystems Inc**, Santa Barbara, California will introduce the latest version of **Mach/ten**, its Mach System 7 emulation software for Unix. Based on Berkely BSD 4.3 Unix, Version 2.1 will include virtual memory support, which provides protected model execution for Unix processing, Macintosh-like dialogue boxes, debugger and a new set of software development tools. +1 805 963 69833.

Cleo Communications Inc, Ann Arbor, Michigan, will demonstrate its IBM RS/6000 compatible **3270linkix** emulation software. The package allows users to operate as IBM 3x74 controllers and display terminals in SNA networks. Users also get IBM 3287 printer emulation. The initial release provides up to 254 simultaneous mainframe sessions, file transfer through CICS and CMS and support for IBM's Netview network management system. **3270linkix** also supports SCO Unix and Interactive Inc Unix. It is priced at \$7,250.

Edison, New Jersey-based **Four Seasons Software Inc** says it has added Cobol file structure support to the **SuperNova 4GL**. The Cobol support will enable users to build **SuperNova** applications which maintain Cobol files, as well as providing migration paths for Cobol data into relational database management systems. **SuperNova 4GL** is priced from \$1,000 to \$100,000 depending upon platform.

Desktop publishing house, **Frame Technology Inc**, San Jose, California, will begin shipping versions 3.1 of **FrameMaker** and **FrameViewer** with native support for Univel Inc's **UnixWare** this week. +1 408 954 39964.

San Diego, California-based **Acucobol Inc** will preview **AcuView 1.1**, the latest release of its graphics package for Cobol. The package enables reports written in **Acucobol-85** to be presented as graphs, charts and tables. It provides 124 standard chart designs including bar charts, pie charts, table charts and word charts, as well as a variety of customization options.

Integraph Inc will preview **Microstation**, its flagship CAD-CAM software, running Microsoft Corp's Windows NT - it'll also show its new plug-in-and-go CAD system, the **PC 466**. The **PC 466** is a 66MHz Intel Corp 486 box, which comes with 32Mb RAM, 426Mb disk, TCP/IP and graphics accelerator. Available now it comes with a 17" or 19" colour monitor. **Microstation** for NT will ship the second half of the year, it says.

Corollary Inc will announce the availability of **CNS-1600**, a built-in surge protection feature on its **Connection Station** communication servers. **CNS-1600** is an Ethernet device, which enables users to hot key between multiple simultaneous sessions with the same or different host. It provides protection for up to 16 serial lines. Available from this week, no prices were given.

American Digital Data Association Inc, Baldwin Park, California, will demonstrate the **ADS/3000 Disk Array Subsystem**, a host-independent disk array system that supports RAID 0, 3 and 5. It can be connected to any Unix host machine with a SCSI I and II interfaces. **ADS/3000** comes in a five channel configuration and supports fast and wide SCSI and can store up to 5Gb of data. The **ADS/3000** is priced at \$7,000. +1 818 369 2332.

Schaumburg, Illinois-based **Concepts Dynamics Inc** will preview the latest release of its **CDI** financial management software, version 4.2. The software contains two modules the **General Ledger** and the **Job Control** system. Enhancements to the **General Ledger** include cost allocation functions in the **General Ledger**, on-screen view and edit of data feeds, accounting organiser, user defined menus, and customised reporting functions for financial statements. The **Job Control** system includes six levels of project definition such as project tracking, costs and time estimation as well as an enhanced customer billing system and an employee expense system. +1 708 397 4400.

CompuServe Inc, Tampa, Florida, will introduce Unix-based versions of **World Class**, its human resources and payroll software for IBM RS/6000s and Hewlett-Packard Co HP 9000s at **Uniforum**. +1 813 872 9990.

New York-based **Systems Strategies Inc** will introduce **Express Peer-to-Peer**, its real-time communications software, for linking Unix systems to IBM AS/400s. **Express Peer-to-Peer** enables users to perform bi-directional file transfer, execute remote job submissions, print documents on both Unix and AS/400 printers and develop program-to-program applications using IBM's LU6.2 protocol. In addition the software supports TCP/IP and IBM's APPN network. Available at the end of the month it is priced at \$20,000. +1 212 279 8400.

Canoga Park, California-based **Andromeda Systems Inc** will demonstrate the **SCSI CacheMaster**, its software which adds cache memory and RAM to SCSI-based computers. **CacheMaster** resides between the SCSI host adapter and the tape and optical devices and is available in 2Mb or 320Mb memory sizes. Cost per Mb is \$250. +1 818 700009 7407.

Canadian firm **KL Group Inc**, Ontario will show **XRT/3d** for Motif, its software that provides Motif applications with three-dimensional surface and contour colour widgets. **XRT/3d** for Motif is available on Sun Microsystems Inc Sparcs, Hewlett-Packard Co HP 9000s and IBM RS/6000s.

WANG, HEWLETT-PACKARD IN UNIX HARDWARE-IMAGE SOFTWARE TIE

In what looks like a remarkable commentary on the nature of its agreement with IBM Corp for the RS/6000, Wang Laboratories Inc is to market Hewlett Packard Co's Unix machines under a deal announced last week. Wang is re-writing its imaging and office integration software to run on the HP 9000 Series 800 business servers, and in a technology swap, Hewlett-Packard will be reselling this software to its own customers. The pact is expected to generate around \$100m of sales over three years. There have already been suggestions that Wang's deal with IBM to sell the RS/6000 has not lived up to expectations - in June 1991 IBM took a stake in the financially troubled company, in return for which Wang agreed to sell the AS/400 and RS/6000 machines (UX No 39), but late last year said that it would not be adding to its stake as it had the right to do under terms of the agreement. Wang UK's Freddie Cook admitted that RS/6000 sales were initially slow, adding that demand was now picking up nicely. The poor start, he suggested, was partly due to a dearth of applications for IBM's AIX Unix implementation. Cook characterises Hewlett-Packard's Unix as being closer to standard Unix than IBM's and the company's boast of being the world's largest supplier of Unix systems is an obvious attraction. HP will be actively selling Wang's Open/Image, Pace for Open Systems; Open/Office and Cobol Resource software to its own customers, where IBM took nothing. Cook said that IBM was aware of the announcement and is relaxed about the deal, despite its potential to diminish Wang RS/6000 sales.

IBM TO RELEASE UNIX RELATIONAL DATABASE

IBM Corp is expected to announce the Unix version of its DB/2 successor to OS/2 Database Manager this Tuesday, although the company was expected to preview it in Paris last Friday: it is IBM's first in-house relational database offering for AIX users, and should help the RS/6000s fit into DRDA (Distributed Relational Database Architecture) and SAA environments - but it's unlikely to appeal to those more used to going to third parties for their database technology.

...IBM TO OFFER AUSPEX SERVER AS AN OEM PRODUCT

IBM Corp is to offer its Rios-RISC version of the Auspex network server, launched last month (UX No 421) as an OEM product. The 7051 Power Network Dataserver, described as a high-performance, high-capacity Network file System server, and developed with the help of Santa Clara-based Auspex Systems Inc, will be available for OEMs from May. It is designed for workgroups requiring fast performance and large amounts of on-line data, and attaches up to eight Ethernet local area networks with storage capacity up to 8Gb to 144Gb. It does over 2,000 input operations per second, three to five times better than the average Unix server, IBM says. It costs \$170,000 with 28.8Gb disk. Auspex itself uses the Sparc chip for its own version of the product.

NEWS ROUND UP

Novell Inc has released NetWare NFS Gateway, a set for NetWare Loadable Modules for NetWare v 3.11 for those wishing to access Network File System (NFS) file services on remote Unix systems. Versions for five, 10, 20, 50, 100 and 250 users are available, with a suggested retail price ranging from \$1,500 for five users (\$300 a seat) to \$12,495 for 250 users (\$50 a seat). Available from April 5th. For those wanting full TCP/IP access to Unix files, Novell's existing LAN WorkPlace and LAN WorkGroup products are available. The much flagged NetWare Release 4.0, tidied up to better support large corporate networks, was finally released last week: a 4.0 version of NFS Gateway is under development.

Wind River Systems Inc, Alameda, California developer of the VxWorks real-time operating system kernel, has filed to go public with an initial public offering of 1.9m shares, 1.7 of them new, at a target price of between \$8 and \$10 per share. The \$1m or so net proceeds will be used for product development and working capital. Co-managers are Hambrecht & Quist and Wessels, Arnold & Henderson.

Wall Street is beginning to firm up its forecasts for IBM Corp's first quarter figures, with the consensus at around 20 cents a share and the more bearish going for 50 cents - but if *Technology News of America's* straw poll of the market around the US and Europe is anywhere near right, the loss is going to be a whole lot worse than that: the returns suggest that the company will have sold at best between 25 and 30 mainframes this quarter, where the Wall Street forecasts assume it did nearer 50 machines.

Siemens AG is disputing a politically-sensitive article carried in *The Wall Street Journal Europe* on February 16, which claims that, for the first time, a top Siemens manager, Heinrich von Pierer, said he was looking for a strategic partner for ailing Siemens Nixdorf Informationssysteme AG: Pierer allegedly stated that he was not interested in a 'one-sided partnership', rather in one that involved 'real co-operation'; according to Computerwoche, Siemens denied any claim that it was seeking shelter for Siemens Nixdorf under the umbrella of Japanese or US competitors, 'like the other three European computer firms'; the Journal's London office says the paper is sticking by its story.

ICL Plc chose Paris for the launch of what it called its biggest ever collection of personal computers and related products last week: the new ErgoLite desktops and note books and Ergo-Pro notebook to ErgoView terminals which come with a variety of 'personalities' or emulations - no prizes for guessing that the company is pushing the new product line's ergonomic design.

Orem, Utah-based WordPerfect Corp is chasing objects: it says Word Perfect Presentations 2.0 for Windows will support Object Linking and Embedding, the Twain image acquisition standard and direct CD-ROM sound; and it has done a deal with IBM Corp's IBM Programming Systems for a joint development agreement to provide users with consistent object interaction and data interoperability across multiple workstation products and operating systems - the agreement encompasses WordPerfect for OS/2, WordPerfect for Windows, WordPerfect for MS-DOS and WordPerfect for IBM's AIX Unix.

Tadpole Technology Plc last week announced a deal with "a major multinational" for the design of its first Texas Instruments Inc microSparc motherboard and an implementation of Solaris 2.1 for it. The deal is thought to be worth £1m over eighteen months to two years.

ULTRASPARCs, SUPERSPARCs and MICROSAPARCs WILL FULFILL SUN'S SCALABILITY PROMISES

by Maureen O'Gara

UltraSparc-I - Sun Microsystems' 64-bit Sparc implementation (see front page) is meant to carry the Sparc design into the realm of 140MHz-200MHz clock speeds, producing chips that measure between 220 and 300 Specint 92 and between 350 and 500 Specfp 92. First silicon of the follow-on UltraSparc-II a year later should start where UltraSparc-I leaves off, going to 275MHz with Specint 92 ratings between 325 and 475 and Specfp 92 between 550 and 750. The earliest UltraSparc-III silicon is scheduled for Q4 1996. The UltraSparc-III will break with the 0.5-micron CMOS technology of its predecessors and use 0.5/0.4-micron BiCMOS techniques instead. Like all of Sun's chips, UltraSparcs will be manufactured by one or more of its semiconductor partners. Texas Instruments is a likely choice. The chips, upwardly binary compatible with preceding generations, will adhere to the Sparc V9 specification published by Sparc International last year. Sun intends UltraSparc to be highly superscalar and handle four instructions a cycle. It will include dual-launch floating point and be made out of a 4-level metal process.

Scalability issues have dogged the 32-bit SuperSparc, Sun's current high-end microprocessor. Design flaws made it hard to manufacture in volume at 40MHz until recently though it was originally targeted at high clock rates. Despite these serious hiccups, Sun maintains the continued scalability of Sparc and claims that simulations prove the viability of the UltraSparc. As a result of changes in the original masks, Sun now speaks of a SuperSparc and a SuperSparc+. The former is the result of its initial work and produces its current 33MHz-40MHz Vikings. The SuperSparc+, producing early silicon now, will take it from 45MHz to an anticipated 60MHz in the fourth quarter. (Sun says it's getting 50MHz parts now.) In first quarter of 1994 a SuperSparc-II kicks in with first silicon around 65MHz and by the fourth quarter it should be up to 90MHz. Systems introductions will lag all silicon by some months. The 0.7-micron SuperSparc+ should benchmark from about 75 to 100 Specint 92 and from 108 to 135 Specfp 92. The SuperSparc-II will move to a 0.6-micron technology and Sun will add an enhanced integer unit, new floating point and dual-launch floating point. When combined, these enhancements are expected to increase the II's floating point to an integer ratio. It should benchmark between 115 and 150 Specint 92 and between 162 and 200 Specfp 92. Texas Instruments will manufacture the new SuperSparcs as it does the current ones. All SuperSparcs will follow the older 32-bit V8 spec. These multiprocessors will do three instructions a cycle and be built out of a 3-level metal process.

Microsparc

Sun is also developing multiple iterations of Tsunami, its low-end low-cost high-volume single-chip MicroSparc engine. Sun could move the manufacture of these parts from TI, which began it quite successfully, to Fujitsu, which has been very anxious for the business. Sun figures it could have 75MHz versions of its current MicroSparc by summer. By the end of the year it should have early silicon on the MicroSparc-II, designed to go from 70MHz to 100MHz by Q4 '94. MicroSparc-II will get a new floating point unit, an enhanced integer unit, 4x cache and power management. Manufacture will move from a 0.8-micron process to 0.5 micron and from a 2-level metal to a 3-level. Voltage will shrink from 5 volts to 3.3. It should come in around 45 Specint 92 and top out at around 60. The sketchier MicroSparc-III, expected to produce silicon in early '95, will pick up at 100MHz and go to 125MHz by the beginning of '96. It will use faster transistors and an external cache.

All MicroSparcs are uniprocessors capable of one instruction per cycle and again follow the 32-bit Sparc V8 guidelines. Sun reckons its only competitors are Intel and the IBM PowerPC. In fact it figures the three companies will be the only survivors of the coming silicon shoot-out. To insure its place it is wading into the vapourchip fray from what it claims is a more defensible position. Its products are more seamless and easier to work with because its compilers and operating system are factored into the design. It wrings higher performance per clock than anybody and it has not broken compatibility the way Intel intends to do with the P6 (UX No 420) and the way IBM has done with the Rios and its subset the PowerPC, having apparently failed to scale it down to the desktop and having been forced to strip out 40 instructions and substitute a software emulator.

IBM'S POWER OPEN ASSOCIATION KICKS OFF WITH FIVE SPONSORS - MORE IN THE WINGS

The PowerOpen Association Inc unveiled itself last week with five sponsor members - Apple, Bull, IBM, Motorola and Thomson-CSF - spending an initial \$750,000 and annual \$250,000 to fund the Billerica, Massachusetts-based outfit. Harris Computer Inc and Tadpole Technology Ltd are principal members, spending a lesser \$150,000 per annum. DEC veteran Dominic LaCava is president, and a further eight to 12 staff should come on board this year. Sponsor members get a vote on the board and on all committees and working groups, principal members get representation on the board and committees, with one vote on all working groups. Associate membership costs \$100, and is mainly aimed at software developers, forty of which endorsed the effort. PowerOpen will publish an Application Binary Interface - based on IBM's AIX - this Summer, along with test and verification software for both system vendors and application developers. Other Unix-based operating systems, such as Bull's BOS/X and Thomson-CSF's real-time Uni/XT will be grafted on top by individual vendors, and IBM said it would keep its mainstream RS/6000 systems in-line with the specifications. The aim is to create a single binary standard for software running on PowerPC and RIOS-based systems. Further sponsors and at least one "multi-million unit company", not expected to be in the mainstream computer systems business, is said to have signed up for PowerPC, and should reveal itself within two months, claimed PowerOpen officials.

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The Weekly information newsletter for the UNIX® community worldwide

We hear **Intel Corp** has written up a bunch of Q&As for its people to use answering questions that touch on **DEC's** competitive Alpha chip, while **Microsoft Corp** has written up a similar document on Unix compared with NT.

In what may be the first of several similar moves, **Alpha Microsystems Inc** has agreed to acquire the assets of the hardware maintenance division of **MGI Group International**, a Los Angeles-based Unix integrator with 294 local service contracts adding \$1.2M to Alpha's nationwide annual service revenues. The acquisition, whose terms were undisclosed, is expected to be completed later this month.

Sun Microsystems Inc says the Cypress/Ross HyperSparc is still only in pre-production mode and that until it advances they can't make a decision about using it.

And **Sun** reportedly has a number of other chip projects on the drawing board besides the UltraSparcs, SuperSparcs and MicroSparcs described inside: these iterations however are all actively funded and staffed.

Sun Microsystems Inc shares were off \$2.50 at \$32.375 last week after the company's chief financial officer suggested that the quarter's results may fall below expectations, prompting analysts at Dean Witter and Goldman Sachs to express concern about the workstation maker's order levels this quarter.

Question: When is LAN Manager for Windows/NT not LAN Manager for Windows/NT? Answer: when it is called Microsoft Windows/NT Advanced Server - **Microsoft Corp** says that it has invoked the name change so as not to confuse customers since a lot of the functions of the OS/2-based LAN Manager which we know and love are already incorporated into the base operating system and Advanced Server will provide only the extras such as multi-domain management; coincidentally of course, Microsoft will avoid discouraging any users that weren't particularly enamoured of LAN Manager's original incarnation.

Clear seems to be all the rage these days, what with **Miller Brewing** coming out with a beer that not only tastes watered, but actually looks like water, a Clear Tab from the Coca Cola Co and Pepsi Co pushing something called Pepsi Crystal, so it's nice to see that **IBM Corp** is right up there with the trend - enter one of those hallowed and long-standing computer rooms these days and like as not you'll be able to see right across it with no Big Iron to impede the view - the transparent mainframe.

If you need to refer to a scorecard, **DEC's** Alpha chip and the **Mips Technologies Inc's** R4000 part are already 64-bit. **IBM** is also making the transition along with Sun (see page one) but its first 64-bit silicon, the 620 PowerPC, is still a year away.

An essay in the latest issue of the **Microprocessor Report** makes the point that the chips that are pressing the clock speed argument in their design such as Mips, HP and DEC are the ones winning the performance not the people such as Sun, IBM and Motorola who contend its all in the instructions per cycle. The complexity of the Sun, IBM and Motorola designs can also negatively impact time-to-market: a six-month slip, such as Sun had with the SuperSparc, can make a new CPU suddenly uncompetitive.

IDG World Expo is trying to pull together a Unix Fair '93/Tokyo for December 8-10 at the Pacifico Yokohama: It's got a hospitality suite set up at the San Francisco Marriott this week trolling for prospects. It's open 10 to 7 March 16 through 18 in the Sierra Conference Suite A.

DEC has just named company veteran John O'Keefe, formerly vice president, channels marketing, to the post of vice president, Unix marketing reporting to vice president, Bill Demmer.

IBM and **Sybase Inc** have cooked up a co-development/co-marketing deal revolving around the RS/6000 that they're expected to announce this week.

Microsoft Corp chairman has been quoted in the US press as saying SunSelect's Praxys Windows-on-Unix product would violate Microsoft's intellectual property rights unless it gets a license from Microsoft. SunSelect says its lawyers are satisfied there are no legal obstacles to selling the stuff.

Oracle Corp will team with Sun Microsystems Computer Corp to develop and sell products and services for the pharmaceutical industry. The partners look for about \$200m in hardware, software and services from the venture by 1997. It will include a systems integration effort for complicated tasks such as document tracking, and joint development of software to expedite computer-assisted new drug design.

Cincinnati-based **Cincom Systems Inc** has won a five year, \$10m contract to supply its LAN database, Supra Server, to the US Defense Information Systems Agency (DISA) and the Defense Commercial Communications Offices.

Another name can be crossed firmly off the **IBM Corp** list: John Sculley, chairman of Apple Computer Inc has now gone on the record saying "I would like to respond to the persistent rumours that I might leave Apple and go to IBM - I have told Apple's board of directors and our executive management team that I am not available or interested in being chief executive of IBM; I believe Apple has a tremendous opportunity to be extremely successful in the years ahead, and Apple will be the most important innovator and leader in the industry; 10 years ago this April I signed up to do a job, and there is still a lot that I would like to accomplish with all of us; I hope this statement will put to rest the speculation that I might go to IBM, and also serve as a clear message of the confidence that I have in Apple," he declared.

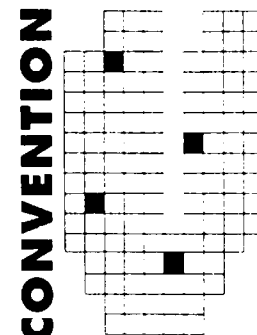
Unify Corp has appointed Reza Mikaili as senior vice president of product development: he joins from Informix, where he was responsible for development of Informix On-Line.

Liant Software Inc has sold off **Template Graphics Software Inc**, its corporate graphics business unit to Landmark Ventures Inc, a Connecticut-based investment management company. It will be run as a free-standing entity. Liant says it wants to focus on its strategic base of programming languages and application enabling tools.

Oops! We got the telephone number of **Ontos Uk Ltd**, Richmond, Surrey wrong a couple of weeks ago, its +44 81 332 7245.

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SUN JOINS IBM AND HP IN BID FOR DESKTOP UNITY

Finally accepting that if they don't hang together in the face of the threat from Microsoft Corp Windows NT, their Unix efforts will hang separately, Hewlett-Packard Co, IBM Corp, Sun Microsystems Inc, Unix System Laboratories Inc, Univel Inc and Santa Cruz Operation Inc lined up at last week's UniForum trade show in San Francisco to announce a common desktop strategy for Unix workstation vendors (UX No 427). Over time, the effort, known as the Common Open Systems Environment - or COSE - will extend beyond the desktop to embrace common networking, graphics, multimedia, distributed object technology and systems management. The net result won't be shrink-wrapped software. Firms will develop their own implementations of the environment and although applications will look the same on machines from each of the vendors, they will not be portable. The companies do promise existing software will be binary compatible with whatever they eventually come out with. The six will publish a specification for a common desktop environment by the end of June, and it will save everyone's face by incorporating elements of HP's Visual User Environment and Encapsulator, IBM's Common User Access Workplace Shell, SunSoft's Open Look, DeskSet and ToolTalk interapplication communication system and USL's Unix SVR4.2 desktop manager alongside the Open Software Foundation's Motif toolkit and window manager. Open Network Computing+, Distributed Computing Environment and Novell Inc NetWare networking environments will be supported. The specifications will be submitted to X/Open Co Ltd for inclusion in the Portability Guide and the standards body will also take over responsibility for the publishing, trademarking and branding of Motif specifications. In addition, Novell Inc will submit its NetWare Unix client specifications to the organisation. On multimedia, the partners are defining Distributed Media Services and Desktop Integrated Media Environment tools. On objects, the sextet votes the Object Management Group ticket. Systems management remains hazy - a workgroup will be established - and OS/2 will be supported. Digital Equipment Corp - together with HP and IBM - was reportedly not invited to join the effort until Tuesday 16th, just 24 hours before the announcement was made, presumably because it is putting many of its eggs in the Microsoft NT basket. DEC says this didn't allow it sufficient time to evaluate the proposals but says it supports all such unified Unix efforts and promises to make its position clear this week. HP and IBM - prime movers in the effort, first revealed here back in (UX No 424) - plus Sun and USL, promise COSE-compliant products by the middle of 1994. They plan a Developers Conference for October.

End of the war or a quick fix?

Although the six cased their announcement as marking the end of the Unix GUI wars - and Sun chief Scott McNealy was finally heard uttering support for the dreaded "M" word - reaction to the news was mixed. With no business plan, no product plan, no marketing strategy and no budget, Dataquest principal open systems analyst, Rikki Kirzner was not alone in describing COSE as "too little too late," and a "quick fix." Nevertheless, former protagonists have certainly broken the mental log jam. Agreement on that process was more difficult to reach than on the technology, according to one of the six. Users can only hope the vendors will apply the same effort to other unresolved technology issues. Details, page four.

ICL READIES MIX AND MATCH DRS6000s

ICL Plc is expected to unveil a range of new DRS6000 Unix boxes on April 14th. It is understood the systems have been designed to allow multiple Texas Instruments Inc SuperSparc and Cypress Semiconductor Corp HyperSparc RISCs to be configured together in mix and match arrangements. ICL currently offers the Level 200 series desktop model 240, 400 series slimline and 700 series deskside SuperSparc models. In the past it has expressed an interest in taking on Cypress' SuperSparc-compatible part (UX No 408). ICL's current SuperSparc desktop - designed by Fujitsu Ltd - uses a single 40MHz chip, high-end 700 series servers use up to four of the parts. If demand for its Microsoft based Intel Corp desktops encourage independent software vendors sufficiently development of a MicroSparc-based desktop will be considered.

**UNIVEL HALVES PRICES
TO COUNTER MICROSOFT**

Univel Inc last week cut its prices in half because of Microsoft Windows NT, the most threatening vapourware ever to descend on the market. NT entered its second round of beta testing last week but could still miss its targeted June 30 shrinkwrap deadline, and remains officially unpriced. Like a cat with its prey, Microsoft has been toying with its competition, threatening to hang a predatory \$99 introductory price on the stuff (UX No 413). It has talked vaguely of pricing the NT client somewhere between \$200 and \$500 and the NT server somewhere under \$5,000. However, it has also recently suggested a tag of only \$1,000 for the server. Microsoft is also figuring on almost immediate street discounting, since it will push NT through retail channels like the Egghead chain of stores. Apparently spooked, Univel cut its prices attempting what it called a pre-emptive strike. It claimed, perhaps hollowly, that NT had yet to impact its business. However, both its UnixWare client-side Personal Edition, now priced at \$250, and its Application Server, now \$1,300, are immediately affected. Software Development Kits have been cut 40% to \$600. Microsoft's have been going for \$69. Details, page 3.

DEC TO OFFER NATIVE NETWARE

Following similar deals with Hewlett-Packard Co and most recently Sun Microsystems Inc, Novell Inc signed an agreement last week with Digital Equipment Corp to jointly develop, market and support a native implementation of the NetWare operating system for DEC's Alpha AXP chip. The plan is to release a version of NetWare 4.0 for Alpha some time in 1994, although software developers kits will be ready by the end of this year. DEC has worked with Novell since the middle of the 1980s, and the two have also worked together to integrate DEC's Pathworks PC integration software with NetWare.

SUNSELECT LAUNCHES PC-NFS FOR WINDOWS AND NETWARE

SunSelect, the Sun Microsystems Inc PC-to-Unix connectivity and peripherals subsidiary, will launch PC-NFS 5.0 today - Monday - for Microsoft Corp's Windows For Workgroups and Novell Inc's NetWare. The new release, which begins shipping at the end of the week, includes full Microsoft Windows 3.1 integration, a Windows Sockets application programming interface (API) and Netbios support. SunSelect also announced SelectMail, an e-mail product that allows MS-DOS and Windows users to exchange mail files with other personal computers and Unix systems. The new version of PC-NFS, (UX No 418), has added support for Windows For Workgroups and NetWare device drivers, which enables personal computers to share applications, files, printers and e-mail across any TCP/IP or Sun ONC/NFS network, SunSelect says. SunSelect will provide updated device drivers for the next release of Windows For Workgroups. The product continues to support Windows and MS-DOS operating systems. NetWare support also includes Ethernet. According to SunSelect, the Windows Sockets API will allow Windows applications written to the API to run unmodified over any TCP/IP network. Other features include enhanced terminal emulation capabilities with built-in VT52-VT320 for MS-DOS and Windows 3.0 applications - including the FTP and Telnet protocol - support for international character sets and downloadable fonts. It also comes with a PC-NFS 5.0 programmers toolkit. PC-NFS version 5.0 is available from SunSelect's current reseller channels - prices go from \$560 for a single user licence to \$7,625 for a 25 user licence. SunSelect also introduced SelectMail. It comes in two editions; one for Windows-based personal computers and the other for MS-DOS. SelectMail 1.0 for Windows supports the Windows Sockets API and includes features such as a binary file attachment, spell checker, read and receipt confirmation and local and global addressing functions - that allow users to establish their own queuing systems for remote sites. It supports POP2/POP3 and SMTP mail protocols. The MS-DOS edition, is a revamped version of SunSelect's PC-NFS LifeLine mail system. It supports SMTP and POP2 and POP3 protocols and includes an automated scheduler, delay delivery option, cut and paste, search and fail notification capabilities and text-attachment. SunSelect claims the two versions will interoperate with each other. SelectMail for both operating systems will be available in April - prices are the same for both versions and start at \$156 and go to \$3,600.

DEC'S OSF/1 APPEARS ON ALPHA

DEC has at last announced its OSF/1-based operating system for Alpha-based AXP systems, giving its Alpha hardware customers an alternative from VMS. OSF/1 V1.2 is its 64-bit implementation that will run applications originally designed for System V, BSD and OSF/1 Unix, according to DEC. It ships immediately. Real-time performance is the highest available from general purpose systems, claimed the company. Software houses supporting the launch included Acceler8 Technology Corp, Crosswind Technologies Inc, Informix Corp, Ingres Corp, Micro Focus, Progress Software Corp and Sybase Inc. Along with the operating system, DEC introduced its Polycenter advanced file system and utilities, providing high-availability for large-scale storage systems, multi-disk support and performance tuning: available from May. DEC plans a further release of OSF/1 mid-year, adding further layered products, including the object-based Application Control Architecture Services application integration layer. OSF1 V2 will support symmetrical multiprocessing and clustering, and is due for release between October 1993 and April 1994.

SAMSUNG HAS FIRST HP CLONE

Samsung Electronics Co's workstation division last week introduced its SWS715 Hewlett-Packard clone workstation, one of the first to emerge onto the market. Licensing the PA-7100 chip, system technology and HP/UX operating system from HP, Samsung will build the workstation itself at its Korean-based plant: it has enhanced the operating system to support additional I/O features, but retains binary-compatibility with HP/UX and will run the 4,000-odd applications available. Samsung, which signed up with HP three years ago, is a member of the HP PA-RISC supporters club PRO - the Precision RISC Organisation. The 50MHz 7100 at 50MHz delivers a performance of 69 SPECmarks and 36 SPECint. A cheaper, 33MHz version is also available. Graphics performance is 920,000 2D/3D vectors per second. There is an EISA slot for I/O expansion. Samsung, which has its workstation division in San Jose, California, says it will not compete directly with Hewlett-Packard, but instead develop new markets in areas such as imaging and scientific visualisation. It sells entirely through indirect channels. It also plans to offer Windows NT on workstations "by 1995", a subject on which HP itself will not yet commit itself. Samsung is working on its own version of the PA-RISC that will add high-speed memory technology to the CPU logic on the same silicon. Prices for the SWS715 are comparable with HP's start at \$4,000 for a 33MHz entry-level system with 8Mb memory, no disk and no monitor. A 50MHz version with 19" colour monitor.

PROGRESS PORTS TO HP 3000, ALPHA OSF/1

Progress Software Corp is to port its applications development environment to Hewlett-Packard 3000 Series hardware running the MPE operating system, it announced at UniForum. Progress, already available on the DEC VAX and IBM AS/400, as well as most Unix-based platforms, will allow existing Progress applications to run on top of HP's Allbase/SQL relational database. Initially, a client/server version will allow Progress clients to access HP 3000 servers running Allbase/SQL - that should appear in the second half of this year. Early next year, the company plans to produce a full-blown version where Progress applications reside on the HP 3000. At the show, Progress also said it would release a DEC OSF/1 version of Progress for Alpha AXP systems, due out in the second quarter of this year. And the company introduced a gateway to the Sybase SQL Server, including support for Sybase stored procedures and database triggers. It is out this month on Sequent and Sun hardware, with Data General, HP9000 and IBM RS/6000 versions due in the second quarter.

DG ADDS DAT TAPE ARRAY TO CLARIION RANGE

Data General also expanded the storage options available in its Clariion range with what it claims is the first high-performance fail-safe tape array for Unix. The Series 4000 Tape Array can back up a 30Gb database overnight without operator assistance, claims DG, and is up to six times faster than conventional devices. Using up to seven 4mm DAT cartridges, the unit uses data striping techniques to deliver data in parallel to the array's multiple drives. A 20Mb/second SCSI-2 interface connects the host system and the array, allowing backup to take place at a sustained rate of 3.5Gb per hour. For extra reliability, parity information is calculated and distributed in the array's disk striping process, meaning that if one drive or cartridge fails, parity information stored elsewhere will allow the lost data to be recovered. Available on Sun, IBM and Data General hardware, prices start at \$19,500 for a five drive system. Data General also announced a joint development with Oracle Corp to put the Oracle Parallel Server on DG AViiON hardware. It should be ready by the fourth quarter of the year. A 48-user, dual AViiON system configuration with Clariion disk array and the Oracle Parallel Server will start at \$120,000 and 525Mb hard disk costs \$14,000.

BULL ADDS DPX/20 RIOS UNIX MODELS

Compagnie des Machines Bull SA has followed IBM Corp in introducing five new DPX/20 servers and an entry-level two-dimensional colour graphics diskless workstation based on the Power RISC architecture and a RAID technology disk array subsystem - the CLARiiON is being bought from Data General Corp. The five new DPX/20 models comprise two high-end desktop models, the 50MHz 460 and the 62MHz 470, a mid-range deskside model 640 and two high-end rack-mounted systems, the models 810 and 840. The desktop models, says Bull, provide performance up to twice that of the existing 400 Series entry model and have a quadrupled cache buffer of 32Kb. Standard features for the intermediate range Model 640 include 2Gb of fixed disk and CD-ROM storage, an integrated SCSI adaptor, and eight Micro Channel slots. The Model 640 has a suggested price of \$62,180. The rack-mounted models have an expanded 64Kb data cache, a 32Kb instruction cache and, as standard on the Model 840, two 80Mbps per second input-output interfaces. They also come equipped with a 1.44Mb floppy, CD-ROM drive, 5Gb 8mm tape drive, four 1Gb SCSI-2 hard files and an SCSI-2 controller. The Model 810 is suggested to sell for \$122,180. The Model 105 two-dimensional graphics workstation, with a suggested price in France of \$5,450, is "one of the lowest priced in the industry." The new DAS 2000 disk array subsystem stores up to 24Gb in a single subsystem. Up to 20 drives, either 500Mb or 1.2Gb SCSI-2 3.5" drives, can be configured in a cabinet small enough to fit under a desk, Bull said. One or two subsystems can be configured on a single SCSI system bus. The French company currently needs four weeks or so from the IBM announcement of new RS/6000s to integrate its set of Distributed Computing Model distributed computing framework - a major differentiator from the IBM versions, claims Bull. The two are fierce competitors in the market, despite cooperation at the engineering level, but say they will not compete by undercutting pricing. Bull claims its strength is on the commercial side while IBM wins more of the technical deals. The four to eight way multi-processor RS/6000s - on which Bull is taking the lead - are due for announcement by the fourth quarter of this year. Bull is also talking to IBM about the software needed to run IBM clusters and Power Parallel systems.

SAP TAKES 10% STAKE IN iXOS

German mainframe software house SAP AG has taken a 10% stake in specialist Unix software experts iXOS Software GmbH of Munich. SAP has paid around \$2m for the stake in iXOS, which produces graphical user interface software and already provides SAP with document imaging technology. SAP is moving from its traditional base towards client/server Unix with its R/3 product line. iXOS, founded in 1988 by Hans Strach Zimmerman (ex Siemens) and Eberhard Faerber (founder of PCS Computer Systems), is a privately-owned company that has been growing at a rate of 50% per year, employs 110 staff. Its main products include the iXBuild graphical interface builder and iXView/SQL database query tool. Unipress and Qualix are the US distributors. The money will fund further product development and cements a technology transfer agreement.

MITSUBISHI HINTS IT'LL BE SECOND SOURCE FOR DEC'S ALPHA RISC

The first second source to be announced for the Digital Equipment Corp Alpha RISC looks like being a real surprise: Mitsubishi Electric Corp, not noted up to now as a fabricator of microprocessors, is negotiating a tie-up with DEC that could lead to Mitsubishi making and selling the Alpha, **Reuter** reports from Tokyo. According to Mitsubishi, the discussions could lead to joint microprocessor development, and announcement is expected soon.

UNIVEL PRICE ENCOURAGES WIDESPREAD UNIX-ON-INTEL ADOPTION

Univel Inc said its price cuts last week (see front page) removed one of the last barriers to the rapid adoption of Unix-on-Intel as a client/server solution. As well as cutting client prices to \$250 and server prices to \$1,300, Univel has bucked up its Personal server Edition with the Windows Merge facility it had previously listed as a \$400 add-on product so it can run DOS and Windows 3.0/3.1 applications under Unix. Although Univel claimed its strategy remained unchanged, it also said it was putting more emphasis on the desktop, the Microsoft stronghold where NT is likely to be stronger than it is in Unix's bailiwick, the server. The shift, if that's what it is, mirrors the way shipments have been shaping up during the three months since they started. The company says it is surprised the mix is two Personal Editions to every Applications Server. It expected the initial ratio would be 1:1 during development, building to five clients to every server during deployment later on. It is attempting to find out what is causing the mix, indicating it does not have its fingers on the distribution pulse because of its two-tiered channel. Apparently only Novell's Platinum dealers are effective in moving product. With the price cuts, they will have to be content making money on service and support. Univel's soon-to-be sole owner declined to release the number of units its subsidiary has shipped but said they Revenues for the last quarter came to \$6m. Univel acknowledged its cuts would impact the Santa Cruz Operation, which it described as a "partner," but explained that its focus was on Microsoft.

UNIX JOINS THE WORKGROUP AS LOTUS LAUNCHES NOTES

Lotus this week will announce Notes for Unix, claiming the workgroup software is one of the key applications Unix has been missing: it was previewed at UniForum last week. The new product, based on Notes 3.0, will let Unix users communicate, share information and develop applications with users of OS/2, Windows and now also Macintosh versions of Lotus Notes. Unix versions for Sparc, HP, IBM and Intel/SCO platforms are due in the second half. The SCO version will run under Open Desktop, the Sparc version under both Motif and Open Look, and the others under Motif. Lotus is also expected to streamline its Notes pricing, making it uniform across platforms, and comprehensible as far as multiple licenses go. As we went to press, pricing had not been fixed, but it should be PC-style - that's currently \$600. The company has lined up US distributors Merisel, Ingram and Scan Graphics to sell the products, and will back away from direct sales, it promises. Lotus also expects to publish the API for Notes to encourage software development. Notes Release 3.0 includes the OLE-like LEL Link Embedded and Launch-to-edit facility. Despite some rave reviews, Notes, which Lotus characterises as an enterprise but with a long sales cycle, has not been a runaway bestseller for Lotus. There are between 300,000 and 400,000 PC versions out there, tiny numbers for a Lotus, even though PC networks are selling like hotcakes.

COMMON OPEN SYSTEM ENVIRONMENT

With the COSE agreement only just signed, sources are saying that a further agreement may be only thirty days away on WOSE - the Windows Open Systems Environment - perhaps based on the technology Sun Microsystems has fostered from Praxis.

Sources say there were only really four companies behind COSE: Unix System Labs, Hewlett-Packard, IBM and Sun. Beyond that, says the source, SCO had to fight to get in and the Open Software Foundation was not a party to the negotiations. The power behind the throne, though it doesn't want it to appear that way, was Novell Inc.

Although some wags were touting COSE as ACE II last week - see front page - the six principle actors describe their effort as neither a consortium, an initiative, a development company or a replacement for anything. And they're setting no prices.

Adoption of Motif application programming interface specifications by X/Open Co Ltd offers a politically acceptable means for Sun to offer Motif products on its price list for the first time. Its SunSoft Inc subsidiary plans to market Santa Cruz Operation Inc-owned IXI Ltd's Motif toolkit under a deal already signed and due to be revealed soon. Subsequently SunSoft will offer a combined "MoLook" type COSE toolkit in the first half of next year.

Although developers will in future be able to go to X/Open for Motif specifications without having to pay a royalty to OSF, few, given the associated development costs and resources, are likely to choose this option. Most, OSF hopes, will pick up its COSE'd-up Motif.

Despite a demonstration of COSE desktops at the announcement last week - which included drag and drop between Motif and Open Look applications - what the resulting products will be unclear until the specification is released, now expected sooner than the end of June timeframe.

Drawing on an often-used analogy with the automobile industry, SunSoft president Ed Zander believes suppliers now have "a dashboard for Unix."

Gary Eichorn, general manager of Hewlett-Packard Co's workstation systems group said he didn't think COSE in its initial guise would be enough to meet the demands of user collections like the Galileo group, which is pressing for a generic common front end.

Santa Cruz Operation Inc declined to put a timeframe on delivery of its own COSE-compliant products - it wants to see the specifications first - but its IXI Ltd division expects to be first to market with a compliant desktop manager. Moreover, SCO is said to be toying with the idea of doing some kind of COSE implementation for Microsoft Corp Windows NT.

Although the idea of COSE has been kicking around for more than a year now, it was the possibility of missing the opportunity to be a part of a very public announcement on the opening day of the UniForum show that finally drove some of the parties to the table. In the event the starting line-up went down to the wire. Final agreement was reached barely 48 hours before Wednesday 17th, the opening day of the show.

If COSE hadn't happened, all manner of alliances and other forces would have been unleashed, according to insiders.

OSF has apparently been submitting its Motif interface to X/Open on a regular six monthly basis over the last three or four years, according to sources.

Support for COSE came from across the industry, including Adobe, Autodesk, Computer Associates, Computervision, Convex, Cray, EDS, Fujitsu, Hitachi, ICL, ICS, Ingres, Mead Data, OMG, Oki, Oracle, Samsung, Siemens-Nixdorf, Stratus, Sybase, Toshiba, Unisys, Unix International and XSoft.

HP, IBM and the rest of the COSE firms say their effort does not affect their operating system plans in any shape or form.

Sun Microsystems has been closed out of a few significant contracts lately because it couldn't tick off the Motif and DCE boxes on the bids. COSE will at least get it back in the running for a \$20m deal at Boeing that requires Motif. Sun insiders reckon the company will price-list Motif almost immediately. Best guess is that SunSoft will offer reasonably priced Motif upgrades for Solaris 1.X and make it standard with Solaris 2.1 and 2.x, making that stuff more attractive.

NOVELL TO DRIVE UNIX FROM THE LOW-END

While the Unix vendors got together last week for yet another attempt at unifying their offerings, Novell Inc, the new owner of Unix technology, is convinced that things must go a lot further yet. Volume is driving the market, and volume currently belongs to the twin dictators, Intel and Microsoft. Kanwal Rekhi, executive vice president of Novell's interoperability systems group, thinks his company has the resources to challenge Microsoft in the corporate, client-server marketplace, and even claims that Novell will take at least half of the market from the clutches of Microsoft's NT. Users, he says, are not prepared to see Microsoft alone dominating the marketplace, and want to retain a choice. In local area networking, Novell has weathered the storm against Microsoft by gaining 70% of the market with NetWare, and says it is now the biggest shipper of TCP/IP, sending out 40-50,000 seats a month. Windows for Workgroups is a flop, says Rekhi. But, he says, many of the Unix vendors have lost their way. The innovation once focused around Unix hardware vendors is slipping towards the PC. Intel's 486 is very cost-effective and volumes are infinite, says Rekhi. And customers now have a choice of DOS, Windows, NT, NetWare, UnixWare, Solaris, Nextstep or OS/2 on their PCs, while a Sun user, for instance, must stick with Solaris. With five main players dividing up the RISC market, RISC processors still amount to only 5% of the overall volumes shipped, with Intel taking the rest.

Old-fashioned ways

In short, many Unix vendors are being shackled by their desire to own everything. Unfortunately, the margins won't sustain the level of investment. Rekhi thinks it's the "pure" companies without the old-fashioned mindset that will flourish: pure hardware companies such as Dell and Compaq; pure software houses such as Novell and SCO; applications vendors such as Lotus; and a newer breed of companies that will integrate everything together, such as the re-born Unisys. Rekhi says Novell tried to work with SCO on Unix back in 1990, and later approached Sun to help with its Intel-Unix effort, but both efforts came to nothing. So eventually it stepped in and bought Unix System Labs. Now, says Rekhi, market pressures will force the vendors to rely on USL for the operating system and concentrate on their key strengths, finally unifying the Unix effort. USL will port the technology for everyone, while Novell's Univel division will concentrate on the Novell-Unix package. As for the high-end and non-Intel vendors, they too will benefit from the innovations scaling up, claims Rekhi. But the low-end must be driven hard by Novell. Hence the company is halving its prices (see front page), making it clear that the competition with NT will be serious. This is not a desperation move, he says, but is a pre-emptive strike: "We are taking the bull by the horns".

ELVIS ALIVE AS SUN PUTS NETWORKING INTO ORBIT

Sun Microsystems Inc revealed its first foreign equity investment last week, signing a technology licensing and joint development agreement with Russian wireless communications experts Elvis+ Ltd (UX No 426). The two companies aim to jointly develop wireless networking technology for Sun's future nomadic computing strategy - something it won't flesh out with much detail at this stage. Sun has taken a 10% stake in Elvis+, but would not reveal the value of the investment. Elvis+ - apparently a Russian acronym standing for Electronic Computer and Information Systems - is run as a private company 40 kilometres outside of Moscow, headed by Dr Alexander Galitsky, the chief designer of communications satellites for the Russian computer space programme and one of the top experts in wireless communications. He leads a team of some 53 noted Russian computer scientists. The relationship flourished following a visit to Moscow by Sun's Bill Joy and John Gage in October 1990 - Sun was impressed by the levels of reliability and miniaturisation, combined with a close integration of hardware and software that Elvis+ has brought to wireless networking. It is currently patenting its small antenna technology in the US. As Sun sees it, wireless networking will be a key technology as computing comes out of the office and onto the street. They are working on the software layers taking a network-centric view that embraces nodes that are sometimes disconnected. It could involve both satellite and ground base station wireless local area - and eventually wide-area networking. Products are a long way down the line. Curt Wozniack, Sun's vice president, engineering said it would take at least three to four years to understand and productise the technology, incorporating it into existing SBus or new hardware products. Sun's recently announced activities in the personal systems business with First Person are not directly involved, aimed as they are at the consumer end of the market rather than corporate networking. Sun said it went to the Russians because it couldn't find comparable technology anywhere else - the only other source comes from the US military, and according to Dave Ditzel, acting head of Sun Labs, "It's easier to work with the Russians".

SCO OFFERS PENTIUM DEVELOPERS EARLY ACCESS

Responding to our piece on Power Now, its Pentium initiative, in last week's issue, The Santa Cruz Operation says that it is less important to re-compile the operating system than the applications software, which tends to be more numerically intensive. SCO is accordingly to offer software developers interested in Pentium an advanced technology release program that includes an early-release version of the SCO Optimising C Compiler, designed to generate binaries taking advantage of the forthcoming Intel chip, and also run on the 486. SCO also says it believes Intel Corp's assurances that up to 200,000 Pentium chips will ship this year. SCO says that run as-is on the Pentium, applications performance will be improved by up to 54%. Recompiled and run, applications will run up to 130% faster on the 66MHz processor. 486 applications will run 27% faster when the compiler has been used. Power Now, and the Intel Pentium, will be highlighted at Cebit in Germany this week.

IBM TAKES ON DME INTEGRATION FOR OSF

IBM Corp is reportedly going to relieve The Open Software Foundation of one of its heaviest burdens and take over integration responsibilities for the Distributed Management Environment (DME). OSF had originally planned to do the work internally, after none of its members or founders volunteered, scared off by IBM's experience integrating DME's companion piece DCE, the Distributed Computing Environment. OSF and Tivoli Systems, source of the DME framework, are said to have appealed to IBM and Hewlett-Packard after sensing a loss of interest in DME due to the slow progress. Tivoli will remain what it always was, a sub-integrator of the systems management piece. All of the parties are interested in making DME more compliant with the Object Management Group's CORBA Common Object Request Broker Architecture specification. HP is understood to be contributing parts of its DOMF Distributed Object Management Facility and IBM parts of its SOM to the object core layer. It will be interesting to see whether Unix International follows suit.

TIVOLI RELEASES MANAGEMENT SOFTWARE

Meanwhile, Austin, Texas-based Tivoli used UniForum to announce a new version of its systems management software. Tivoli Management Environment Release 1.6 adds configuration and change services to the software, claimed to simplify and automate the process of setting up, maintaining and changing large-scale client/server networks, a task that often takes up over half of a system managers time, according to Tivoli. The new services have three components: a configuration definition database where templates of key configuration information can be stored; change automation for making changes to large numbers of networks automatically; and scheduling services to control the timing of the changes. The first application to use the services is Tivoli/FSM, which manages Unix client/server file sharing mechanisms from a central control point. Release 1.6 can also incorporate existing Tivoli applications covering software distribution and remote systems monitoring, and application extension and development tools are also available. The software will be available on HP and Sun workstations from the third quarter of the year. +1 512 794 9070.

HYPERDESK DEVELOPS "DME-LIKE" SOFTWARE

Hyperdesk Corp has signed a joint development agreement with Reston, Virginia-based Digital Analysis Corp, claiming that the result of the deal will move them towards providing DME-like functionality, but from a solid CORBA-compliant base. DAC currently markets the OS/Eye*Node network object manager, which it claims integrates network, system and applications management across TCP/IP and OSI networks. It uses a drag and drop style graphical user interface based on OSF/Motif. The agreement will lead to the integration of the product line with Hyperdesk's HD-DOMS distributed object management system. At UniForum, the two companies showed a prototype of Orb*View, providing a graphical map of the network, for real-time monitoring and control of HD-DOMS Object Request Brokers from a Unix workstation. Product should be available in the third quarter of the year on Sun, Data General and Hewlett-Packard workstations. Further products are expected under the HyperManagement nametag. Also at UniForum, Hyperdesk Version 1.1 of HD-DOMS, allowing developers to use both static and dynamic C-language binding, adding an Object Request Broker instruction kit for building custom servers within HD-DOMS, and providing support for multiple concurrent object repositories. HD-DOMS runs on Data General, Sun and IBM workstations, and an HP/UX version will be shipping within a few weeks. There is also a Microsoft Windows version. NetWare and DOS versions will be out by the end of the year. +1 508 366 5050

IBM LAUNCHES ITS DB2/6000 DATABASE FOR AIX UNIX IN FRANCE...

Ahead of its database announcement in the US last week, IBM France SA announced the company's first relational database effort for its RS/6000 Unix, DB2/6000 version 1. It had been expected that the AIX Unix database would be a derivation of DB/2, the latest version of Database Manager for OS/2, but IBM said that the two products would only "merge over time". DB2/6000 is accompanied by Distributed Database Connection Services, which provides support for IBM's Distributed Relational Database Architecture, and the two enable the RS/6000 to participate in a distributed schema with DB2 on IBM mainframes, the OS/400 database, and DB/2. DB2/6000 is claimed to offer all the functions of an autonomous relational server, supporting AIX, OS/2, MS-DOS and Windows machines as clients. And it integrates "completely" with the architecture of IBM's Information Warehouse. It supports AIX mirroring and integrates with transaction processing monitors such as CICS/6000 via the XA interface of X/Open Co Ltd's Distributed Transaction Processing specification; it also supports the X/Open Call Level Interface; it is compatible with ISO SQL2 Entry Level and SAA Level 2. It needs AIX 3.2 and languages supported are IBM XL C and Fortran, and Micro Focus Plc Cobol. It goes on controlled release in July and general availability is set for October, but there was no indication of price. Across the water, none of the intrepid previewers appears to have got wind of DB2/6000, IBM is also tipped to unveil a new release of the DB2 mainframe database, version 3.1 with support for Distributed Relational Data Base Architecture for updating databases at multiple sites simultaneously. And some housekeeping tasks under DB2 3.1 such as reorganisation of the database are expected to take less time. First ships of DB2 3.1 are seen for July.

...AND IBM WILL PUBLISH ITS INFORMATION WAREHOUSE SPECIFICATION

IBM Corp will publish the specifications of its Information Warehouse Architecture to enable customers to build Information Warehouses and to provide guidelines for software vendors. The document describes the components and interfaces required to do Information Warehouse implementations and enable the development of compatible easy-to-use client-server applications that provide access to all corporate data via a set of data access capabilities. The interfaces in the document are based on industry standards whenever possible, IBM said, adding that it will make all interfaces open and public. It will immediately publish the currently defined interfaces, with the other interfaces to be published by the end of the year, IBM said.

OBJECT DESIGN OPENS UK OFFICE

The object-oriented database developer, Object Design Inc is aiming to become a \$100m company by 1995, and to do so, has expanded its direct sales operations and set up European headquarters in the UK. Object Design UK Ltd, Swindon, Wiltshire will operate as a wholly-owned subsidiary, selling the firm's flagship product, the ObjectStore database and related tools. The new division will provide support to both end-users and VARs in the UK, as well as implementing an ISV and VAR programme for its software. Object Design UK is headed up by managing director, James Beagle. The company has 5,000 licencees worldwide for ObjectStore and derives 50% of its revenues from international sales, of which Europe contributes 30% and the rest 20%. The firm expects Europe to contribute another 10% in revenues by the end of the year. A German office will follow.

NCR ENHANCES TOP-END, ADDS NEW BOXES

With Unix System Labs slipping away from AT&T to Novell Inc, AT&T subsidiary NCR Corp can be more comfortable promoting Top-End, its competitor to USL's Tuxedo transaction processing monitor. Last week, NCR added some new features to Top-End that should make it more attractive to customers moving from mainframe-based systems or mixing mainframe and open systems environments. Most important is support for IBM 3270 terminals, the first of the "open" TP systems to do so according to NCR. Using a combination of Top-End working with the NCR Comten Communications Processor, customers gain the ability to use their in-place 3270 terminal networks, many of which are huge, to switch between IBM 3270 applications on the SNA host and block mode applications on the Unix host. Full IBM CICS support is said to be on its way. NCR is also supporting the Microsoft Windows Dynamic Link Library and enhanced international language support. On the operating systems front, NCR introduced its implementation of Unix SVR4.2 at UniForum last week for its ISA and Micro-Channel-based Series 3000 Intel systems. Customers can buy it pre-loaded or can buy the software modules separately. And NCR also introduced a new version of its System 3450 server. The 3450-UP is a single processor version of the one to four processor 3450 MP, with a lower entry-level price. It has less memory than the MP version, but can still be upgraded to MP capability. Starting price is \$26,000 with 16Mb memory and 500Mb hard disk. NCR also doubled the cache memory per processor on its NCR 3550 2 to 8 processor system to 512Kb. A fully configured model can now have up to 4Mb cache memory, improving performance and processing speed.

WANG FILES REORGANISATION PLAN: 3,300 MORE JOBS TO GO

Ownership of Wang Laboratories Inc will pass to the most prominent classes of creditors under the company's reorganisation plan filed last week. The reorganised Wang's common shares will be issued to general unsecured creditors, including debenture holders, while the holders of its current class B and C common will be issued with seven-year warrants to buy back 20% of the reorganised company's common shares. The exercise price for the warrants will enable creditors issued with common to recover 95% of their claims before the exercise price equals the trading price. The company says it believes the reorganisation plan will lead the company out of Chapter 11 protection and to profitability in fiscal 1994 to June 30 that year. Creditors holding priority claims, such as pre-petition wage claims, some customer claims, set-off claims and secured claims will be paid in full or as agreed upon by the parties, or otherwise remain outstanding; it appears that the shares now traded on the American Stock Exchange will be essentially worthless. The new Wang will not invest in development, design and manufacture of open systems hardware so that capital investment, inventory and warehousing requirements will be substantially reduced. It will continue to assemble and test VS computers and secure systems products. The two strategic businesses - integrated imaging and office software, and value-added network services - will be managed through five business units - North America, Federal Systems, Europe, Asia and Latin America South Pacific. It sees fiscal 1994 turnover of \$1,000m, compared with \$1,300m this year; 3,300 more jobs will have to go over time.

INFORMIX-GATEWAY ADDS IBM DISTRIBUTED DATABASE

IBM Corp's Distributed Relational Database Architecture is starting to pick up acolytes, and Informix Software Inc, Menlo Park has announced Informix-Gateway with DRDA, claiming that this makes it the first major Unix database vendor fully to support the IBM architecture. The company has also committed to supporting the distributed unit-of-work level of the specification. The first release of Informix-Gateway will be Unix-based and is to support links to IBM's Systems Application Architecture databases so that Informix users can transparently access DB2 databases: however, the gateway has not yet been formally tested with AS/400 database. It also announced that its family of database information management software products is now shipping for SunSoft Inc's Solaris 2.1 version of Unix. Single user pricing for Informix-OnLine under Solaris 2.1 is from \$3,300 and a single user Informix-4GL licence costs \$2,150. Informix OnLine 6.0 database servers will ship in the third quarter on Sun, Sequent, IBM RS/6000 and HP 9000 systems. Informix says it'll have its database software up on Digital Equipment Corp's Alpha AXP next month - the stuff is out now on Solaris 2.1 under Sparc. The company is looking for a comprehensive data management system for its database and expects to develop a third party relationship to meet its requirements. It is particularly interested in Tivoli Systems Inc's distributed management technology. And, following the current fashion, Informix has also opened a software development centre in Dublin, Ireland. It'll bring 20 European staff over to get the centre up and running - they'll be replaced with locally recruited staff over time and be relocated again around Europe. The company expects to open Hungarian and Polish offices this year.

TATUNG DEBUTS NEW SPARC CLONES

Tatung Science & Technology has come up with Sparcstation 10, Sun Classic and LX clones. Tatung claims the 36MHz Viking-based Super Compserver 10 is more expandable than the Sparcstation 10. Priced from \$16,000 for a system with 32MB and 1GB hard drive, it can be configured with up to 10 storage devices including six 3.5-inch drives, three 5.25-inch SCSI II drives and a floppy. The entry-level model 10/30 ships in May. Three other models will be released later this year. Customers can have either Solaris 1.1 or 2.1. Meanwhile, the company expects to ship the first MicroSparc clones next month starting at \$3,790 for the Compstation LC and \$4,690 for the LX, both undercutting Sun. Unlike Sun, which is only supplying Solaris 2.1 with its machines, Tatung is bundling its with Solaris 1.1 and selling Solaris 2.1 as an option. Entry-level models offer 16MB RAM expandable to 128MB, a 207MB hard drive expandable to 2GB and a 1.44MB floppy. The LC has a 14-inch SVGA 1024 x 768 colour screen with a CG3/SVGA card; the LX is a 15-inch 1152 x 900 one with a GX accelerator card standard.

SYBASE OFFERS DRDA SUPPORT

Emeryville, California-based Sybase Inc has licensed IBM Corp's Distributed Relational Database Architecture and plans to use it to support distributed unit of work access between IBM databases, and Sybase SQL Server and Open Client and Open Server applications systems pay \$150,000 for full distribution rights.

ORACLE UNVEILS OBJECT-ORIENTED

CO-OPERATIVE DEVELOPMENT ENVIRONMENT

Oracle Corp has introduced the Co-operative Development Environment, CDE, an integrated set of tools designed to enable organisations to create, deploy and maintain client-server applications. Applications built with it will be portable across different graphical user interfaces and automatically run under Microsoft Corp's Windows, the Apple Computer Inc Macintosh, OSF/Motif and other environments without changing any of the code. Oracle claims, applications will automatically conform to the native look-and-feel of each graphical environment in which it is run. This is achieved via a software library called the Adaptable User Interface Toolkit, which enables the same version of the tool to run under Windows, Macintosh System, Open Look and Motif. Co-operative Development Environment applications incorporate multimedia objects - image, sound and video, and these are also portable between environments, and they can access data stored in most databases, including DB2 and SQL Server as well as Oracle7 databases. They are created diagrammatically using high-level software engineering modelling tools, and the environment can interoperate with other tools, such as Texas Instruments Inc's IEF and KnowledgeWare Inc's IEW, by exchanging model information stored in the CDE Repository with models stored in their repositories. Co-operative Development Environment is built using application programming interfaces such as Open Data Base Connectivity and Distributed Relational Database Architecture. Oracle claims that Co-operative Development Environment coupled with the Oracle 7 Co-operative Server Database enables its installed base to upgrade existing applications to a graphical client-server environment. The Environment comprises three classes of tools - system modelling, application building, and end-user. The first and third are out now, and all components will be available by June. Pricing has not been set. In the future, Oracle says it will enhance its multimedia software, specifically its video capabilities to allow video objects to be passed between different hardware platforms. It also intends to develop greater object extensions using the Object Management Group's Object Request Broker - to increase the interoperability and communication of objects between Oracle-based tools and foreign software. In addition, more graphic functions will be provided to enable applications to be developed using pictures and icons, it says. Oracle also plans to introduce a project management toolset for CDE in the first of 1994. It will provide work breakdown analysis tools, project resource functions and workflow management structures.

ALPHATRONIX "FIRST" WITH OPEN STORAGE MANAGEMENT

Alphatronix has announced what it calls the industry's first open hierarchical storage management environment. Coming out in stages, it provides Emissary, a user-managed client-based archival application, and a separate automated system-managed hierarchical file migration application, both of which integrate with the firm's Inspire II optical jukeboxes and library management software. The latter is still under development and due in Q2 for Sun/NFS networks followed by RS/6000. Emissary, which works on TCP/IP networks across DECstations, RS/6000s, HPs and Suns, is available now. Alphatronix says prices start at \$15,000.

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Overheard backstage at a Uniforum party last week: AT&T's Bob Kavner to Novell's Ray Noorda and SCO's Doug Michels - "I've had it, dealing with this crap all these years. Now I hope you guys can make a buck out of it."

At AT&T's signing-off party last week, Unix creator Dennis Ritchie was asked to present the lifetime achievement awards - "The winner is Judge Dickinson Debevoise," he quipped, before handing crystals out to Bill Joy and others.

"We originally thought the IXI name would go away," says new owner, Santa Cruz Operation Inc. Instead the company will use the IXI name as a brand for its front-end technologies. It will also use the IXI connection to try and win accounts that would otherwise be unwilling to buy from SCO, but don't care who owns IXI.

Ahead of the Pentium processor launch on March 22, Intel Corp has a Pentium-compatible chip set for its Peripheral Component Interconnect specification: the new set reportedly supports a 64-bit data path and speeds of up to 66MHz.

The latest word has Solaris-on-Intel coming sometime in May.

Microsoft Corp is said to be reconsidering the floor-level pricing it was trying with NT, and is now thought to be unlikely to go with the \$99 price.

ParcPlace Systems Inc has appointed Richard Dym, formerly general manager of Autodesk's Multimedia Division, as its vice president of marketing.

MIT's Salon School of Management, the Open Software Foundation, Bull Worldwide Information Systems and the EEC are pooling resources to co-host Enterprise '93 June 16-18 at the World Trade Center in Boston. The program, aimed at top execs, is meant to help them manage IT more profitably and effectively.

White Pine Software Inc, out of Nashua, New Hampshire, enhanced its multiplatform line of X11R5-based X server software offering Unix connectivity with Windows, Macintosh and NextStep to revision 5.0. White Pine says the stuff is 25% faster than competitive solutions; supports new X font formats and networked X font servers; and offers enhanced DECwindows, Open Windows and Motif support. Priced range from \$300 to \$450.

Qualix Inc has picked up Adobe's TransScript software for distribution: the software allows Unix programs to print to Postscript devices.

Cupertino, California's Globetrotter Software Inc, creators of FlexIm, the network license manager, last week introduced GlobeSupport, a remote support software aimed at software developers, calling it a new product category. It allows users to access product, application and support notes; contact customer service, development and marketing groups as well as providing on-line user registration. Developers can include support capabilities as a module directly with their products in an Internet-based client/server architecture. The company says it can be integrated with an application in a few hours. NEC Electronics is an early user. It is currently available on Solaris 1.0 and 2.0.

Megatek Corporation announced the newest member of its X-Cellerator family, a \$1,500 Esprix CL accelerator supporting multiple workstation users on a single Sparc CPU, allowing four independent seats on a Sparcstation 10. The CL also provides Sun's new Classic and LX boxes with a low-cost graphics accelerator. Performance equals 1m 2D vectors a second. Megatek casts the widget as a cost-effective alternative to colour X-terminals. It is compatible with X Windows and OpenWindows applications. Shipments begin next month.

At UniForum last week, Salt Lake City, Utah-based Century Software Inc introduced version 6.3 of its Term for Windows desktop-to-Unix communications software: available now, prices go from \$200. +1 801 268 3088

New Jersey-based Verbex Voice Systems Inc debuted a speech system for Unix SVR4.2 and Solaris 1.x. The Speech Commander Desktop coprocessor with digital signal processing includes a developers toolkit for creating speech interfaces under Unix and interfaces to workstations and personal computers over RS232 connections: prices start at \$2,800 or \$2,000 before April. +1 908 225 5225

Faximum Software Inc, West Vancouver, Canada, is now shipping version 2.1 of its Fax for Unix software. +1 604 925 3600

Denver, Colorado-based Advanced Archival Products Inc has released version 4.0 of its Amass Unix filesystem for jukebox storage systems - prices start at \$6,000.

AGE Logic Inc, San Diego, California, is to implement the new features and protocols defined in the XIE draft standard version 4.12 for X-Window servers on behalf of the MIT X Consortium. +1 619 455 8600

DB/Expo '93, set for May 3-7 in San Francisco, says it's sold out of exhibitor space despite a 35% increase in size over last year. Attendance is projected at 20,000.

BGS Systems Inc, Waltham, Massachusetts, has introduced a visualiser for its Best/1 capacity management software. +1 617 891 0000

Computer Associates International Inc, Islandia, New York, is to license Cheyenne Software Inc's LAN storage technology device drivers into its network backup and archiving systems. +1 516 342 2391

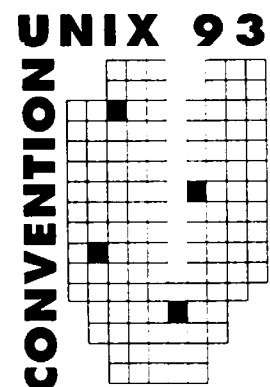
BKS Software Inc, is developing C++ and object oriented tools for MS-DOS, Unix and VMS, has changed its name to Poet Software Corp: the firm also relocated its principal US offices to Santa Clara, California from Cambridge, Massachusetts.

Xalt Inc's Xalt Office, the suite of five graphically based integrated applications including Desk, Calendar, Notes, Mail and People Manager, is now immediately available for Sparc machines priced at \$200. HP and IBM versions are due next month. The California company has been circulating early development copies since last September and adding features and functions.

AST Research Inc, Irvine says it will open a manufacturing plant in Europe by the end of the year, but has not yet chosen a location. It has added shifts at Irvine and is expanding its Taiwan and Hong Kong factories to meet rapacious demand.

Helios Systems Inc has 8Mb and 32Mb upgrade kits for Sun's Classic and LX workstations priced at \$400 and \$1,900 respectively. The former is sold as two 4Mb SIMMS; the latter as two 16Mb SIMMS. The boxes both have six SIMM slots and can be incremented to a maximum 96Mb. +1 408 432-0292

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TIVOLI OFFERS UP AN OBJECT API TO DESKTOP EFFORT

Tivoli Systems Inc, Austin, Texas, is racing to fill the systems management void left open by the Common Open Software Environment alliance at Uniform. Last week it volunteered to create a common applications programming interface (API) based on its object-oriented framework and submit it gratis to X/Open Co Ltd as part of the COSE standard. It says it will submit the API in the next 90 days to the COSE work group for systems management that COSE promised to form. The Tivoli initiative has not gotten any kind of endorsement from any of the COSE group. However, through all the long years of the Unix wars Tivoli seemed to be the only thing that all the key parties could agree on. The Tivoli framework is central to Unix International's Atlas and the Open Software Foundation's DME systems management standards, hence with what Unix Systems Labs, Hewlett-Packard Co and IBM Corp are doing. It is also key to Sun Microsystems Inc's Project DOE (Distributed Objects Everywhere) scheme. Tivoli president Frank Moss believes it would be relatively painless to bring these three endeavours, representing the main COSE players, into alignment. Although he has received some personal encouragement from the COSE chieftains, he cannot tell whether they will be predisposed to adopt his technology again. Moss is concerned by what he heard at the COSE announcement that they aim to achieve systems management harmony at a lower level, perhaps at an applications level, than the single high-level link Tivoli is offering. He believes such an outcome would only tick off independent software companies. COSE also has no time to go off on an invention tear, he said, if it aims to take on Microsoft Corp. Microsoft previewed Hermes, Windows NT's systems management scheme due in the second half, at InterOp recently. Moss describes it as "sort of distributed," offering node-to-node management, no security and no policy. Clearly he believes Tivoli would be a real COSE asset.

88OPEN PLANS SEPARATE COMPANY TO MARKET TESTING SERVICES

Faced with the choice of reinventing itself or hanging up its boots, 88open, the supporters club for Motorola Inc 88000 RISC vendors, is reportedly finalising a plan to offer up its conformance testing expertise to the industry at large, via a separate organisation that will develop and port test suites for suppliers of other RISC architectures and consortia like PowerOpen or Sparc International it sees as potential customers. The current schedule envisages the organisation dividing into two separate concerns from May (UX No 409). With support for the 88000 as a system architecture dwindling to a few hardy companies, a core 88open unit will continue to service their requirements, testing and branding system software and applications. There is no danger of that part of 88open being lost - its members have already paid all their dues, some \$3.5m, for the new fiscal year starting in April (UX No 424). Most indicators - though things could change by May - point to the creation of a new private company, with another name, that'll attempt to win specification, standards creation, certification and branding work from users, as well as other RISC vendors and consortia, possibly doing independent software vendor recruitment too. As well as facing a falling roster of 88000 adherents, 88open's scheme to license its compatibility technology also stalled, having pulled in only Hewlett-Packard Co as a customer. According to 88open chief, Tom Mace, potential buyers wanted the stuff customised for them and 88open as it is, just isn't in a position to do that for them. In addition, 88open says software companies using its 88000 certification process have asked specifically for the group to put its stuff up on other architectures. Issues still being worked through include who owns the testing technology already developed and how 88open's not-for-profit status will be affected by the changes. More details next week.

HAL WORKING ON FOUR 64-BIT SPARC SYSTEM LINES

HaL Computer Systems Inc, Campbell, California, remains one of the most difficult companies to ferret information out of so we're grateful for even a glimmer of intelligence. According to what we've been able to piece together using what may be dated information, it's been working on four lines of development, all using the company's proprietary 64-bit Sparc implementation and the VME bus. Included are entry-level workstations, uniprocessor servers, a one-to-four symmetric multiprocessor and high-end clusters that are both tightly and loosely coupled. At one time or another these projects were respectively code named: Alaska, California, Montana and Nevada. Alaska and California each had two versions named after cities such as Fairbanks and Nome. These two are still believed to be targeted at the sub \$10,000 and sub \$20,000 price points respectively. Product plans from 18 months ago called for first Alaska shipments this quarter, a date HaL is obviously not going to make. Observers however believe it will ship its first product before the end of the year after a lengthy alpha and beta cycle. These observers also think HaL has outdone its original specification for Fairbanks and Nome and will get better than the 100 MIPS and 175 MIPS they were shooting for. Originally California was due in second quarter 1993, Montana in fourth quarter 1993 and Nevada in fourth quarter 1994.

**NEW SUN UNIT TO PEDDLE
CPU, SYSTEM DESIGNS...**

Looking to get more serious in its efforts to encourage a real Sparc compatible community, Sun Microsystems Inc will open a new business unit next month that'll licence the silicon and system designs of its next generation, 64-bit UltraSparc, SuperSparc+ and MicroSparc (UX No 426). The Sparc Technology Business (STB) division, will operate out of SMCC offices in Mountain View, California, and is to be headed by vice president, Derek Meyer. STB plans to offer three types of specifications; for silicon, Sparc Unix system and operating system-independent hardware. SuperSparc+ and MicroSparc-II specifications will be out in the summer, SuperSparc designs should be available next month, whilst UltraSparc specifications won't be ready until the fourth quarter of next year. STB will also market Sun's home-grown chip design tools, which include a database for each CPU plus diagnostic, simulation and debugging software. STB's brief also covers responsibility for third party distribution rights. Sparcstation 10 and Classic LX system specifications will be available next month: plans for 45MHz SuperSparc+ Sparcstation 10 Models 52 and 54 and 50MHz SuperSparc+ Models 62 and 64 will follow later this year. Hardware design kits for boxes that'll run non-Unix operating systems already announced for Sparc - such as Novell Inc NetWare and real-time environments - are available from next month, other operating systems will no doubt follow. No prices were available.

**...45MHz, 50MHz SPARCSTATIONS,
EIGHT-WAY SUNBOX ANTICIPATED**

Meanwhile, sources report that orders for Sun Microsystems Inc's SuperSparc-based Sparcstation 10 Model 41 dried up pretty early in the current quarter reportedly because the boxes weren't leading edge enough or priced low enough to satisfy. The company is also reportedly having difficulty moving a significant amount of lower-end series 10s out of the channel and into end-user sites. Meanwhile, expectations are rising that Sun will soon announce its anticipated 45MHz Model 52 and 54, set to be dual and quad machines, along with perhaps an unanticipated 45MHz uniprocessor (the Model 51?) and a 50MHz single, dual or quad configuration (the Model 61?). There is also talk of an eight-way desktop/deskside called SunBox again touted for the second calendar quarter.

MCI AND SUNCONNECT TO EXTEND SUNNET

MCI Communications Corp, Washington and Sun Microsystems Inc's SunConnect communications software subsidiary have announced a development agreement to target the wide area network management market. MCI's support is a boost for SunConnect. While SunNet Manager is widely used in local network-based and local network interconnect environments, it has so far had little support in wide area networking and telecommunications, where Hewlett-Packard Co's OpenView is seen to have won greater interest. The system will also compete with British Telecommunications Plc's Concert and AT&T Co's Accumaster systems - although British Telecom has just announced alliances with both SunConnect and Hewlett, as well as the Hermes-based enterprise-wide management system that is under development by Infonet Corp and Microsoft Corp. The two companies say they plan to incorporate SunNet Manager, SunConnect's distributed network management system, into HyperStream, the name umbrella name that MCI gives to its Frame Relay, Switched Multi-Megabit Data Services and broadband ISDN networks. The idea is to use HyperStream's customer network management service, HyperScope, with the SunNet Manager software to monitor and control high-speed wide area virtual data networks. The two companies claim the agreement will mean that customers switching from leased line services to local network interconnect systems will be able to maintain the level of control over their internetworks to which they have become accustomed. SunNet Manager includes a set of applications for automated fault isolation, diagnosis and network monitoring and control. A range of third party applications is also available, providing analysis capabilities and visual displays.

X WINDOW, UNIX? IT SCORES, BUT IT JUST ISN'T CRICKET

The English cricket season is almost upon us, and things will never again be the same. And we're not just talking about all the matches in the venerable County Championship being four-day events - so much more of an event than a three-day match. No, the revolution this season is much more fundamental, consigning to the annals and archives of the game all those beloved green-ruled score books with their lines and squares and numbers carefully laid out to register every ball in best pencil. This season, the scoring system is going high-tech thanks to a joint venture between Goole, Humberside-based press agency Computer News Services and the Test and County Cricket Board. The new system, which should be in place by the end of this month, will replace the current pen and paper score sheet method with 30 laptop computers - one for each scorer - connected to a database. It runs on Compaq Computer Corp Contura notebooks, complete with colour screens and internal and using BSD 386 Unix with X Window software, and has been designed with user friendliness in mind since the nation's cricket scorers are largely computilliterate 70- to 90-year-olds. Scorers will use mouse clicks to mark off, on-screen, details like where each ball bowled landed, whether a run was scored, whether a wicket fell, and which players caught which batsmen out. This information is electronically mailed back to a central Sun Microsystems Inc database and a Compaq personal computer, held in Computer News Services' offices. A second copy of the database will also be held, at a secret location, to ensure security. The new system will not only provide subscribers with up to the minute, page-ready results but will offer cricket coaches a means of analysing players' performance - for example a batsman's record against certain bowlers. The money raised from subscription to the new service, will be used to recoup the £140,000 that was spent developing it.

O2 SIGNS WITH OBJECT CONSULTANCY

O2 Technology SA, the object-oriented database start-up in Versailles, says it has signed a partnership agreement with Paris-based Ingenia SA, a consultancy specialising in object-oriented technology, artificial intelligence and man-machine interfaces. Under the non-exclusive agreement, Ingenia will sell O2 to its clients in the defense, agro-chemical and automotive industries. O2 is an object-oriented database that has yet to make its mark as a commercial success.

MEGATEK EXTENDS X-CELLERATOR FAMILY

Megatek Corp, San Jose announced the newest member of its X-Cellerator family, a \$1,500 Esprix CL accelerator supporting multiple workstation users on a single Sparc CPU, enabling for independent users on a Sparcstation 10. The CL also provides Sun's new Classic and LX boxes with a low-cost graphics accelerator. Performance equals 1m two-dimensional vectors a second. Megatek casts the widget as a cost-effective alternative to colour X-terminals. It is compatible with X Window and OpenWindows applications: ships begin next month.

BUNDESPOST TELEKOM IN OPEN SYSTEMS SHAKEUP

By 1995, Deutsche Bundespost Telekom intends a root-and-branch reorganisation of its data processing activities, by consolidating its 36 existing computer centres into six, and condensing its 45 applications development centres down to five. According to the German weekly *Computerwoche*, Siemens Nixdorf Informationssysteme AG is said to be one of the hot favourites to win the multimillion dollar contract. The deal would involve supplying the company with standardised data processing technology, and a network to link up all of its 100,000 users. Siemens Nixdorf has the edge because it is currently working closely with Telekom to develop the Ocis office communication software, which is already installed in several sites.

XSOFT LAUNCHES WORKFLOW MANAGEMENT SOFTWARE

XSoft Inc, part of Xerox, has introduced InConcert, client/server document-based workflow management software for distributed computing environments. It is said to model and coordinate all components of a work process intuitively, including the people, procedures and data, and offers real-time access to the status of things. To be sold primarily through VARs and system integrators who will customise it for vertical markets, InConcert serves Unix and PC users in configurations from entry-level workgroups up through the enterprise. InConcert automatically prompts and tracks all tasks in the workflow process to locate the right documents and software tools for each step of a project and deliver them at the right time to the right people. These documents can include spreadsheets, images, graphics and forms. Managers can obtain progress reports on any project at any level of detail at any time. XSoft claims InConcert is the first product of its kind to manage people and work process in an organisation-wide setting with multivendor software and platform compatibility. US revenues for this kind of software is projected to increase from \$226m in 1992 to over \$2.5b in 1996. InConcert is independent of other applications and requires no proprietary imaging, office automation or publishing software. Third-party applications can be integrated. Users can reportedly modify the workflow process on the fly. InConcert uses a graphical user interface and object-oriented user environment. It also uses standard RDBMs such as Sybase and Oracle to implement workflow management. Its capabilities are based on a job model for collaborative process automation. InConcert is available as a server on Sparcstations and RS/6000s. The client is available for Sparcstations, RS/6000s and 386/486 PCs. Its base configuration, a Unix server, two developer licenses and eight end-user licenses, lists for \$21,000. Additional developer licenses are \$3,000 and additional end-user licences go for \$1,500 or less depending on quantity. Site licences are available too. InConcert begins shipping this month. AT&T took a stab at this kind of thing awhile back with Rhapsody based on Workhorse out of Dublin. It never got off the ground. Xerox, meanwhile, pride of the office technology set, is trying to wash its hands of its PC-based desktop publisher Ventura because of losses. Informed sources say they started shopping it around last week through Goldman Sachs.

NCR's RAPID RESPONSE UNIT

At UniForum last week, NCR Corp announced its Client Server Rapid Implementation programme, a consulting service that it says develops Unix-based client-server computing prototypes for a customer in less than 60 days. The programme is intended to introduce users to the client-server model and offer a flexible networked solution to solve a business problem. Using actual data from the customer, NCR will work with the major database vendors - it names Oracle Corp, Sybase Inc and Informix Software Inc, to build a custom prototype that combines NCR hardware and software. The programme is pitched at Fortune 1000 companies that have embraced open systems for strategic applications and the company suggests that it could develop a prototype to consolidate financial reporting from a company's strategic business units into corporate headquarters, connecting disparate computer environments into a client-server system. It will first work with the customer to identify business problems to be solved, and after the design has been determined, NCR will build the prototype around an NCR 3450 or NCR 3550 symmetric multiprocessing server - it's going after people downsizing from mainframes here. The NCR 3450 departmental or workgroup server is available as either a uniprocessor or multiprocessor, expandable to four iAPX-86 microprocessors and the NCR 3550 is designed for use as a powerful symmetric multi-processing server for transaction processing and database applications and is expandable up to eight microprocessors. The application could be a combination of NCR's Co-operation and workflow automation software, with software from other independent vendors.

ACER READIES PURPOSE-BUILT NT BOXES

Acer Group Inc is hitching its wagon very closely to Microsoft Corp's Windows NT's star by developing a Mips Technologies Inc R4000/4400 six-chip chipset specifically for NT personal computers. It expects entry-level boxes built with the "PICA" chip and the Acer reference design to go for under \$3,500 yet offer a five time performance leap over 66MHz Intel 486DX2 machines. Acer will introduce a line of the PICA boxes to be called the Formula 64-bit PCs at Comdex Spring and will sell the blueprints and OEM motherboards to other vendors. It believes it already has takers. The M6100 PICA chipset, short for Performance-enhanced I/O and CPU Architecture, includes a high-speed 64-bit local bus to accelerate graphics and networking. Acer intends licensing the bus to the PC industry. The design also includes an ISA bus and AT expansion compatibility. The chipset reportedly supports NT's multitasking and multithreaded I/O operations. It will be able to handle R4000 and 4400 chips up to 200MHz. PICA partitions the system into four subsystems: processor, I/O, video and memory. Each subsystem concurrently communicates via a 25MHz 64-bit bus and the CPU local bus running at 50MHz. The memory subsystem is a high bandwidth design offering 200 Mbyte/second data transfer and capable of addressing 8MB to 256MB of memory. The 200 Mbyte/second video/memory bus is exclusively shared between the 64-bit CPU and the 64-bit I/O master so it yields a high bandwidth for the 64-bit video system. As a result, it can reportedly support high-performance graphics that currently require more expensive technical workstations. Acer is kicking off an ISV programme to attract software house to write to NT. Early Formula development systems will be available. Acer says PICA, developed by Acer Labs in Taiwan, can be modified to support other 64-bit MPUs running NT because of its modularity. The chipset is sampling at \$199 apiece.

UNIR WILL BRING AT&T's CALICO OBJECT SYSTEM TO MARKET

AT&T and Unir Corporation have extended their marketing agreement on AT&T's Bell Labs-developed Calico object-oriented programming language and operating environment technology that Unir claims is the successor to Unix (UX Nos 421, 422). Unir will now be able to negotiate with large computer vendors and software houses on AT&T's behalf to facilitate Calico's transfer to the commercial marketplace. Pricing will depend on the type of technology transfer involved. Maximum access to all of Calico's object-oriented technology including source code, documentation and licensing rights should run about \$750,000. Currently Calico is available on 68000 and Sparc systems. Under a previous pact, Unir is porting it to Intel. Unir, which is pressing the time-to-market argument, says Calico can be applied to pen-based computing, object-oriented database servers, real-time object-based systems and special-purpose telecomms systems that are either open or proprietary. Unir will continue to develop and support its Calico-derived C+@ (Cat) programming language and Conix operating environment. It says it is currently negotiating with several Sparc cloners to ship Conix as a standard component on every machine. Volume pricing is less than \$50 a workstation. Conix can run all existing apps as well as apps developed under C+@. Unir says binaries developed using C+@ can be run without being recompiled on any processor that supports Conix, allowing developers to distribute the same binary for Sparc, the 68000 and Intel.

UNIFACE CLAIMS TO BE THE FIRST TO SUPPORT IBM's DB2/6000

Uniface Corp, Alameda, California claims to be the first proprietary language vendor to support IBM Corp's new DB2/6000 relational database for AIX Unix on the RS/6000 (UX No 428). The company says it is developing an interface that links the Uniface development system with DB2/6000 servers and host databases, providing transparent read/write access to DB2/6000 databases, complete support for all DB2 features, including host and DB2 security, error handling, data integrity and recoverability. It will support all DB2 data types and offer the ability to develop stand-alone applications using OSF/Motif, client-server applications that link MS-DOS, Windows, OS/2 and Unix clients to DB2/6000 servers across local area networks, and will offer full support of IBM Distributed Database Connection Services/6000, the company says. The DB2/6000 Interface Driver will be out 60 days after IBM ships DB2/6000; no price till then.

"FORGET NT" - WINDOWS 4 SOUNDS LIKE THE KILLER

All the hype surrounding Microsoft Corp's Windows NT has drawn attention away from the fact that the real monster seller that for at least its first two or three years of life will relegate NT to niche product status is Windows 4.0. Being developed alongside MS-DOS 7.0 under the code-name Chicago, Windows 4.0 is expected next year. It will incorporate the functionality of Windows for Workgroups, and will include its own native 32-bit file system and device drivers integrated with a Windows kernel so that it will not technically require MS-DOS to run, although it may be packaged so that MS-DOS 7.0, which will also include the 32-bit features, has to be installed first. But Windows 4.0 will support the full Win32 application programming interface, and will include pre-emptive multi-tasking, and it will also have a user interface that is similar to, if not identical to the parallel Cairo object-oriented development effort. Windows 4 will also include release 2.0 of Object Linking and Embedding, and should run most NT applications. MS-DOS 7 will have full 32-bit internals but no 32-bit programming interface, *InformationWeek* reports, because, Microsoft says, developers have taken advantage of so many 16-bit MS-DOS features that moving to a 32-bit programming interface would be virtually impossible. Cairo is now being described as the next major release of NT, and may well be the release that the market waits for before deciding to commit to NT. It will include graphical interface enhancements and offer a distributed object-oriented file system. As for NT, Microsoft is back describing it as primarily a server operating system, and acknowledging that vendors are unlikely to bundle it with more than about 10% of the desktop machines they ship.

INTEL ANNOUNCES THE PENTIUM...

Intel Corp says it has begun shipping production versions of the Pentium microprocessor, but as the company already indicated, it will not be talking price until May, when it frees its customers to start announcing machines. Manufacturers - such as Compaq Computer Corp, which rushed to discuss its Pentium plans in general terms, say they expect their first Pentium machines to list for as little as \$4,500, half the price set for early model 80486 machines in 1989. The *Wall Street Journal* hears that the company has listed the 60MHz version at \$905 for 1,000-up, and gone as low as \$850 each for its best customers; the 66MHz version is said to cost \$1,000. Intel expects to ship "hundreds of thousands" of Pentiums in 1993, and reach a manufacturing rate of 1m in 1994. Last week's edition of *US PC Week* says that its test lab found that the Pentium runs identical software about 80% faster than a similarly clocked 80486 in tests of an Intel-configured Pentium evaluation system.

...RATING IT AT 112 MIPS

Intel Corp rates the 66MHz version of the Pentium chip at 112 MIPS - well it is claimed to execute two instructions per cycle - one for each of its parallel arithmetic-logic units - two five-stage execution units, and claims that it is five times more powerful than the original 80486 microprocessor and over 300 times faster than the 8088. It contains 3.1m transistors, compared with 1.2m for the 80486. It is manufactured in Intel's 0.8 micron three-metal layer BiCMOS process technology, has two 8Kb on-chip caches and a fully compatible floating point unit that is up to five times faster than the one on the 80486 at the same clock speed. To get around the problem that the thing can squeal to a halt when it comes to a branch that stalls the instruction stream, it includes branch prediction, where the chip remembers prior instruction pathways and predicts the correct pathway for a new instruction.

D&B SOFTWARE'S SMARTSTREAM 2.0 USES MICROSOFT ACCESS

The UK arm of Dun & Bradstreet Corp's Atlanta, Georgia-based Software Services division last week previewed version 2.0 of its SmartStream client/server accounting and decision support software which will debut this summer on a range of platforms. Enhancements over last year's initial 1.0 release include workflow activity managers which prioritise tasks for execution or delegation, the addition of Microsoft Corp Access as the query and reporting tool, a more flexible version of the Cognos Software Inc PowerPlay data analyser it already incorporates and new batch cycle processing and TCP/IP connect functionality in SmartStream's InterQ communication application. Transaction processing for SmartStream will be offered in a Financial Stream application, also due this summer, with personnel, manufacturing and logistics packages following in 1994. SmartStream is intended to provide a means for mainframe users to move to client/server arrangements without abandoning their existing systems. In the D&B SmartStream scheme, mainframes can be retained as file servers whilst cheaper Unix boxes take over its traditional tasks. Using the Sybase Inc SQL Server relational database and a Microsoft Windows front-end, SmartStream - plus its associated applications - provides information access, distribution, presentation and development functions for managing integrated purchasing, asset management and manufacturing systems, the company claims. Using InterQ, SmartStream applications can access data from D&B's Expert (the former Management Science America software) and Millennium series mainframe applications and from IBM Corp DB2 and CICS systems and send it to the server system. Although the SmartStream bundle is tied exclusively to the Sybase database at present, interoperability with other platforms is being considered and other database engines can be accessed via Information Builder Inc's EDA/SQL gateway. In moving to a SmartStream client/server environment, most organisations would have to replace predominantly dumb end-user terminals with more expensive personal computer clients needed to run the Windows front end and other tools as well as buying a slew of different software packages, albeit from a single supplier. D&B says it evaluated a dozen query tools before deciding on Microsoft Access, which proved more user friendly than any of the others, and doesn't require SQL programming skills.

Evaluating NT

D&B says it has done \$5m of business on SmartStream since its debut last summer, has some 30 customers, with five orders worth over \$300,000: the software is aimed at organisations with revenues in excess of \$150m. SmartStream can access IBM 370 or compatible, CICS/MVS VSAM, DB2, APPC LU6.2, VAX 4000 through 8000 VMS and DECNet environments. It supports Intel Corp 80486, Hewlett-Packard 9000, Data General AViiON, VAX 4000 through 8000 and OS/2 servers and personal computer clients running windows. The firm sees little demand for Unix front-ends yet. Support for other platforms - including DEC Alpha-OSF/1 and Sun Microsystems Inc Sparc - is expected to be announced as soon as D&B's exclusive distribution arrangements for HP, DG and VAX of SmartStream versions are up. Curiously, given that its UK arm does a significant amount of work on VME mainframes, there is no place for ICL Plc kit in D&B's initial plan - not so smart, perhaps - but again, support is expected to follow shortly. Networks supported include IBM LAN Server, Microsoft LAN Manager, Novell NetWare, DEC Pathworks and TCP/IP. D&B is also evaluating Microsoft Windows NT as a host environment for its products, and has the beta NT release up and running in its labs. In conjunction with the organiser, D&B carried out an open systems and NT survey at last week's UniForum Unix trade show in San Francisco. Even though Windows NT has not yet been released, 37% of the 1,000 or so survey participants said NT will offer benefits not yet available under Unix. Kent Godfrey, director of D&B Software responded by saying "no single operating system" can achieve the goal of providing users with access to open systems technologies. D&B's competitors include Walker Interactive Systems Inc, SAP, Oracle and PeopleSoft.

DATA GENERAL PLANS CUT-PRICE DOCUMENT MANAGEMENT SOFTWARE

Data General Corp is going into document imaging/forms management to move hardware, taking what it learned in the minicomputer business and applying it to current events. It will attempt to commoditise software that currently sells for 10 times what DG will charge. It comes from a third-party source DG declines to identify and is already used in high-end sites. Some of the functionality that lets it be sold for over \$10,000 has been stripped out like technical image editing and the ability to scan in pages over 11 x 17. However, for \$700 a seat for five users it is still very sexy stuff. Because of its Hypersoft compression technology or rather because it doesn't require image decompression 100 full-screen zoomed images can be viewed in less than 17 second, 1,000 in 3.5 minutes. It requires a tenth the usual disk space and one-fifth the usual memory. DG figures imaging is an untapped high-volume market because of the prices that are being asked, the complexity of current software and the time it takes to implement. DG believes its formula is not only affordable and easy-to-use but takes advantage of networks, databases and applications that are already installed. The software, which DG is styling AV Image, is based on an SQL client/server architecture and runs on Windows-based PCs, Motif-based workstations and X terminals networked via NetWare or TCP/IP to a relational database on an AViiON server. AV Image includes Win-Track, a Windows-based universal document manager to create, scan, index, delete, search, edit, mail and print documents and images and AV Image Viewer for viewing and annotating. DB Links and AVImagizer Toolkit, a programmer-level package of run-time C and dynamic link libraries and documentation, are options as is a MasstorMind Optical Storage Manager. (The software will be free with optical jukeboxes.) DBase support includes Sybase, Oracle, Ingres, Informix or Progress using a DB Link option. DG considers relational databases overkill and says run-time versions are enough. They add \$300 a seat to the cost. For smaller environments of less than 20 users, AV Image includes a Paradox PC database engine with networked multiuser file management on the server. The products, internally tested the last six months and now going into formal beta, will be available direct and through VARs in the second quarter. DG aims to hit what it figures is the largest of the imaging markets: the turnkey multiuser arena. Its Professional Services people will pursue users that require customisation and OIS integration. It will use partners at the uppermost reaches which require, say, a workflow component to be supplied by UK, London firm Staffware.

CONGRUENT HAS THE TOOLS TO ENABLE MICROSOFT NT TO SUPPORT X TERMINALS

Congruent Corp, a small band of techies operating from the heart of Manhattan, has come out with technology that will enable Microsoft Corp's Windows NT operating system to support X Window applications running on X terminals and workstations. The system will enable developers of Unix applications to do versions will run under NT and still host X Window applications. Organisations that want to standardise on Windows NT will be able to continue to take advantage of the features and economy of X terminals. The offering consists of conversion tools that enable X applications now hosted under Unix to migrate them to NT - Congruent is developing NT implementations of the programming libraries and the X sample applications, including Xterm, enhanced to take advantage of advanced features of NT. +1 212 431-5100

LYNX UNVEILS NEW VERSION OF REAL-TIME OPERATING SYSTEM

Los Gatos, California-based Lynx Real-Time Systems Inc has introduced version 2.2 of LynxOS, its real-time operating system. Enhancements to the new release include Posix 1003.4 real-time extensions, which enable users to execute Ada code in Unix environments. Improved library functions have been added to increase the performance of Threads and semaphores (special-purpose datatypes). It supports the Futurebus+, increasing the number of user priorities LynxOS can process to include rate, multiprocessing and scheduling. LynxOS' Unix compatibility has been improved and now includes Unix SVR4 Streams support, binary compatibility with Unix V.3.2 system calls and Unix shells. Other features include memory expansion to 512Mb and 2Gb of storage space. Version 2.2 is available now and runs on Sun Microsystems Inc Sparcstation 2s, Mips Technologies Inc's R3000, IBM RS/6000s and Hewlett-Packard Co HP 9000s.

ANDF PRODUCT PROGRAMME TO FOLLOW END-OF-YEAR MEET

With the US Defense Advanced Research Project Agency and European Commission Esprit project now backing it, the Architecture Neutral Distribution Format (ANDF) application portability mechanism has now achieved the critical mass needed to drive it to market, believes Open Software Foundation chief technologist, Ira Goldstein. Indeed, at least one unspecified outfit is thought to have reckoned ANDF commercially viable now. However, whilst ANDF is unlikely to appear in the market this year, Goldstein says OSF plans a conference on the technology for the end of the year to find out which companies are interested in running the stuff to market and how it can be best introduced to an industry audience already blinded by science. Goldstein fully expects an ANDF product programme to be initiated during in 1994. Since its conception, ANDF has been winning hearts and minds as a useful mechanism. It should enable software vendors to write and distribute a single version of an application that'll run unchanged on laptops, workstations and large scale systems alike. The problem has been how to get it out of the labs and into the industry, and "I can't tell what's going to happen when the horses are lead to water," admits Goldstein. Apart from a concerted effort by its backers, which could be shaped at the end of year meet, Goldstein says only catalytic events will otherwise drive ANDF to market. Things like a single influential company adopting ANDF unilaterally for portability across multiple hardware and operating system environments; a standards body like X/Open Co Ltd, IEEE or NIST mandating it; government procurement bodies insisting on it; or a significant new technology coming to market on it. The ANDF specification is now complete and a beta release will be testing later this year. In fact most outstanding problems were ironed out over the last couple of months, Goldstein says; bug fixing remains. Commercial quality ANDF installers will become available for a range of architectures, as will a reference implementation of ANDF using public domain GCC compilers. All property rights to ANDF are owned by the UK's Defence Research Agency, which developed and subsequently licensed ANDF to OSF and Unix System Labs - licences are available from both.

DEC ADOPTS ENCORE'S TECHNOLOGY FOR CLUSTERING AXP's UNDER OSF/1

Digital Equipment Corp and Encore Computer Corp have advanced their Alpha RISC-centred collaboration, and DEC says it will incorporate and distribute the Fort Lauderdale company's high-speed Memory Channel, which directly links the memory subsystems of multiple node processors, and Infinity File System, which enables processors to view data stored on the disks of all the CPUs in a cluster as if it were part of a single database. The products will be offered by DEC on its Alpha AXP systems - initially the DEC 7000 and 10000 AXP systems running OSF/1. Oracle Corp will offer the Oracle7 Parallel Server for clustered environments.

APPLE "WORKING ON MACINTOSH SYSTEM 7.1 VERSION FOR 80486 MACHINES"

Users of 80486-based personal computers may be able to run Macintosh System 7.1 on their machines if a project under way at Apple Computer Inc comes to fruition. According to *MacWeek* magazine, Apple has a project under way under the code name Star Trek which involves a rewrite of System 7.1 to provide users of machines built around the 80486 and above an alternative to Microsoft Corp's Windows. It sounds as if the project has the active backing of Novell Inc, because it is said that the software is being built atop a future release of the DR DOS MS-DOS-compatible operating system. Apple is said not to have made a final commitment to release the software, and the big question is where Apple sees the base of applications for it, but word is that if the go-ahead is given, the product could come to market before the end of the year.

WHAT WE GOT WASN'T UNIFIED UNIX IN MORE WAYS THAN ONE

We couldn't help but notice that some of the coverage following whatever it was we were witness to at Uniforum referred to it as "Unified Unix." Well, it may be a catchy phrase but what was announced as COSE - Common Open Software Environment - wasn't "Unified Unix" - not philosophically, spiritually or literally. "Unified Unix," as it turns out, was an entirely different kettle of fish. A month or more before the March 17 announcement, IBM Corp and Hewlett-Packard were partner-less and trudging around this huge all-encompassing mother of all application programming interfaces that they called "Unified Unix" - despite Digital Equipment Corp's recent appropriation of the name (UX No 423) - to independent software vendors trying without success to get their support. Reportedly it was a soup-to-nuts A-to-Z kind of thing that ISVs rejected out of hand as offering them nothing. There was no agreement on the kernel (but then COSE doesn't either); it wasn't as desktop-centric as COSE nor as graphical user interface-oriented nor as networked. It didn't pick up specific vendors implementations of technologies either, the way COSE purports to. But it was what they meant when they said "Unified Unix." Meanwhile, the firms which endorsed COSE, like the database companies, are now trying to figure out what exactly they backed. COSE being such a last orders affair, they weren't given much time at the time they were asked, apparently by Sun Microsystems Inc. It all happened just the day before and there were all those supporting press releases to write, print and stuff into public relations kits. By the way, if anyone has a complete collection of all the iterations of main press release, we'd love to see how it changed.

COSE prides itself on its un-organisation: no dues, no structure, no consortium, no budget (UX No 428). It's hard to reckon how such a motley crew, left to its own devices, can even begin to expect to defeat Bill Gates, master of the media, without a common war chest and a seriously orchestrated propaganda campaign. The game afoot has gone way beyond technology into the realm of perception where Microsoft Corp holds almost total sway.

Unix System Labs president, Roel Pieper, said in a talk with a bunch of software developers that he might license the tag "Desktop Unix" to his COSE partners but never the unadorned word Unix.

Industry watcher Nina Lytton publicly sized up the COSE alliance as the "triumph of the obvious."

In its March 17 press release, COSE gave as the reason for its existence "increased customer demand for consistent technologies across multiple platforms, greater technology choice, increased cost savings and quicker time to market." Goldman Sachs VP John Levinson says this statement should actually be read as: "no vendor operating system value-add, commoditisation of hardware and software, faster price reductions and shorter product life cycles."

COSE may make a pass at enriching the Motif spec with stuff from Open Look but the effort, if there is one, probably won't get very far. SunSoft president Ed Zander was probably ill-advised suggesting at the announcement that serious changes would be made. Meanwhile, Unix System Labs is probably going to have to make a business decision about whether to get Motif from the outside.

The COSE people are working on multiple areas beyond the five or six initially outlined at the announcement. They intend to give us some notion of what they are when they roll out the API in 90 days.

What do you suppose the Dutch word for COSE is? We suspect our Dutch-speaking friends Roel Pieper and Wim Roelandts cooked it up. Then Wim went off and tagged IBM and when IBM and HP agreed to support a common position Sun eventually found it couldn't resist, especially with Novell nudging it on. SCO and Univel are only supporters; not key players.

HIGH-PERFORMANCE FORTRAN

by Alison Hawkings

What's happened to Fortran? For the last five years Fortran has led a very quiet life, so quiet in fact the launch of new Fortran specifications two years ago, called Fortran90, have pretty much gone unnoticed even by Fortran users. Fortran77, released as the name suggests in 1977, is still the most widely used development language in the massively parallel market. But its future hangs in the balance. The advent of distributed computing and the changing nature of the massively parallel market itself demands new programming flexibility, which Fortran77 has so far not addressed. The new Fortran90 specifications are already considered outdated by many Fortran users, because they don't provide a migration path from Fortran77. The lacklustre success of Fortran90 is historic, Fortran watchers say. The current Fortran 90 specifications were born out of failed attempts by industry vendors in the US to update Fortran77 to Fortran8X in the late 1980s. The initiative was annulled after two years when developers couldn't agree on final specifications. Fortran8X was laid to rest for another five years before being resurrected and renamed Fortran90.

Coalition

Despite these problems a new force has surfaced in the Fortran arena. The High Performance Fortran Forum is a coalition of 40 hardware and software vendors, research institutes and Fortran users, which has clubbed together to revamp Fortran90 - and its first offering is a new set of Fortran90 extensions called High Performance Fortran (HPF). The organisation has garnered support from the US Defense Advanced Research Project Agency and National Science Foundation in the US and from the Esprit project run by the European Commission. The Forum is not a sanctioned standards body. However, the group's work has been endorsed by massively parallel hardware vendors including Digital Equipment Corp, Intel Corp, MasPar Corp and Thinking Machines Corp, which promises to ship HPF compilers this year.

The High Performance Fortran Forum came into force a year ago spearheaded by research at the Center for Research on Parallel Computation at Rice University in California. The initiative's primary goal was to provide greater Fortran functionality in massively parallel computing, especially in the fields of data parallel programming; the provision of non-uniform memory access costs on parallel computers; and common code tuning application programming interfaces for different architectures. Secondary aims included conforming to existing industry standards and defining interfaces to other languages. From these goals three areas for enhancement were specified: new directives - structured comments that download commands to the compiler - new constructs - a definition for operations that can affect the way a program is interpreted - and language restrictions, which limit the use of sequence and storage association to avoid conflicts with distributed data. In order to provide greater support for parallel data programming, the group enhanced existing Fortran90 specifications - developed from the Fortran 8X draft - by adding larger data libraries. These include code reduction functions, prefix and suffix operations, scatter operations and data sorting. The Fortran8X draft was based on the FORALL statement, which allowed assignments to more general blocks of arrays than array expressions. The HPF FORALL is based on this development, but adds nested FORALL statements, limited function calls and multiple statement capabilities. HPF also supports parallel applications which don't need to share data through an independent directive. This ensures loop applications don't conflict with each other.

Flexible

To maintain a high level of performance in modern parallel architectures HPF also provides non-uniform memory access capabilities. Most parallel environments operate best when accessed data shows its local point of reference, the Forum says. In traditional Fortran versions, the language's hierarchical data storage order isn't flexible and cannot provide this information. To override this problem, HPF includes specific directives to describe the alignment of data and the way it is partitioned amongst processors. To do this, compilers allow data to be aligned in a series of array dimensions (an encapsulation of similar data types), sub-dimensions, collapsed or replicate dimensions. Before distribution the dimension is then divided into large or small tasks to balance the load of processing. In addition, HPF also includes several intrinsic functions, which enquire about machine size and the distribution of an array. These interfaces provide access into other programming languages operating in supercomputing environments, such as message passing sub-routines. According to the Forum, these can also be used to develop algorithm applications. Draft 1.0 of the HPF Language Specification can be obtained by e-mail softlib@cs.rice.edu

ADAPTIVE ADDS PARALLEL NEURAL CNAPS/64 AT \$35,000

With the overriding need to introduce their systems to a wider market, massively parallel systems builders are having to come out with ever smaller configurations of their machines to get the entry price down, and Beaverton, Oregon-based Adaptive Solutions Inc has cut its CNAPS pattern recognition system down to 64 processors to create the CNAPS/64. The new model of the system, originally launched just two years ago, brings the entry price down to \$35,000 from \$55,000. CNAPS stands for Connected Network of Adaptive ProcessorS, pointing to the fact that the system applies neural network technology, although as neural networks are less fashionable than parallel systems at the moment, the company is describing it as the lowest priced massively parallel system on the market. The CNAPS/64 is designed for computational-intensive pattern recognition applications such as image and speech recognition, forecasting, signal processing, and neural network training. The building block processor is a chip the company calls the N64000, which includes multiplier, adder-accumulator, shift logic and on-chip memory, and the machine implements single-instruction, multiple data architecture. It comes with 8Mb of external memory, and can be upgraded to the full 512-node configuration. It is designed to be used as a server to a Unix workstation, and is claimed to execute 1G multiply-accumulates per second. On the software front, the company added the BuildNet and CNAPS-C software tools. BuildNet includes pre-written versions of the two most popular neural network algorithms, Back-Propagation and Learning Vector Quantization 2, and an X Window-Motif-based graphical user interface designed to enable users to run the algorithms on the CNAPS computer and display test results graphically, even if they have no programming experience. CNAPS-C, an extension of the C language, is conceived for creating new algorithms and applications, and both run on the Unix workstation. CNAPS-C programs can be launched with either the BuildNet or CodeNet command-line interface. The CNAPS-C compiler provides two compilation paths, one producing ANSI C code that is compiled into host executable code for debugging on the host workstation with standard ANSI C development tools, the other producing CNAPS Programming Language assembly code that is assembled into CNAPS executable code. For optimum performance in key sections of code, in-line CPL assembly code statements can be incorporated into the C program; BuildNet costs \$3,000, a development kit with CNAPS-C and CodeNet costs \$4,500.

CRAY EXTENDS ITS C90 FAMILY DOWN TO REPLACE Y-MPs

Cray Research Inc, Eagan, Minnesota hopes that flattery will get it everywhere in Japan, and so it chose Tokyo for the worldwide launch of a range of new models in its C90 line to replace the existing Y-MP machines. The new models are about 20% more expensive than the models they replace, but are about three times more powerful, which it reckons works out at an average 2.5-fold improvement in price-performance. The new line includes the first air-cooled machines in the C90 series, a two-processor C92A and a four-processor C94A, which it says were developed in response to demand from Japanese commercial users. The other models are the liquid-cooled Cray C94, the eight-processor liquid-cooled Cray C98, and an expansion of the 16-processor Cray C916 system, which was introduced way back in November 1991 and has up to now been marketed as the Cray Y-MP C90.

BRITISH TELECOM TEAMS WITH SUN, HEWLETT ON NETWORK MANAGEMENT

British Telecommunications Plc says it is working with both Hewlett-Packard Co and Sun Microsystems Inc to develop products that will provide customers the ability to manage complex internetworks consisting of local area networks and British Telecom's internetwork services. The phone company reckons that while this evolution of integrated management is seen as a critical need for users, it has yet to be fully addressed by network service providers. British Telecom says it plans to develop links between the two companies' local network management systems - Hewlett-Packard's OpenView and Sun's SunNet Manager, and its own Concert system - and chose those two companies as its first partners because it believes that between them they control about 60% of the local network management market. British Telecom says it is considering provision of local management services in conjunction with its portfolio of managed communications services once the new products are finished: it sees commercial products and services in early 1994. The partners will co-operate on development of products that enable users to monitor remotely and manage in an integrated fashion, both their local and British Telecom-provided wide area network services. The computer companies will develop interfaces between their respective management systems and Concert, which will conform to the Network Management Forum's OmniPoint specifications, based on the Common Management Interface Protocol, CMIP. The claimed benefits include rapid identification and isolation of faulty local network segments, dynamic control of network capacity, and integrated monitoring of performance parameters of both the internet and local network. Users will be able to order additional services and report faults direct to British Telecom service centres, and its Syncordia Corp will also offer facilities management services.

SNI MOBILISES UNIBOL, SINIX FOR DECLARATION OF WAR ON IBM IN ITS AS/400 HEARTLAND

Siemens Nixdorf Informationssysteme AG is expanding its Supra range of IBM Corp mid-range-to-Unix migration software to cover not only System 36s, but also the AS/400. According to Computerwoche, the AS/400 version will start shipping in the third quarter of this year under the name of 'Unibol 4xx', following demonstrations at the IBM mid-range show, Expo 3x/400, in Frankfurt at the end of June. Unibol 4xx enables users to run their AS/400 applications under Siemens Nixdorf's Sinix version of Unix on MX and RM boxes, without needing to dispense with their existing application environment or their investment in peripherals. The product consists of a migration suite, development tools and emulation facilities for 5250 terminals. The Supra team has been trying to tempt System 36 users to buy its product for years, but has not had much success. It also received little support from Siemens Nixdorf's mid-range division, as a result of the confusion that followed Siemens merger with Nixdorf. But this situation has changed fundamentally under the guidance of Siemens Nixdorf manager Wolfgang Wichmann. He has set up a sales organisation within the company's trade and industry division, in conjunction with four partners - Braunschweig-based Unilab Software GmbH; CTS GmbH, based in Heusenstamm, near Frankfurt; Dresden-based SRS GmbH; and DOM GmbH of Munich.

...ACQUISITION OF NIXDORF "A DISASTER FOR THE SPANISH END"

The merger of Siemens AG and Nixdorf Computer AG to form Siemens Nixdorf Informationssysteme AG was "the worst thing in the history of the corporation" that had happened in Spain. The company's vice-president, Horst Nasko, said that, before merger, Nixdorf was the second most important manufacturer in the country as regards volume sales. It is now seventh. He blamed the decline in sales on "the erosion of distribution channels" and on management philosophy, which "must clearly undergo a radical change". But he declined to comment on future plans for the Toledo-based factory, saying that managers at the Spanish subsidiary were responsible for that.

EISA GROUP READIES NEW 64-BIT BUS

The Extended Industry Standard Architecture subcommittee is planning a 64-bit replacement for EISA bus that will transfer multiple data packets faster than 200Mb per second. The new bus is expected to be launched later this year on Intel Corp Pentium-based machines and is being developed by the National Semiconductor Corp. But versions configured for existing ISA and EISA-based systems are also planned. According to US press reports, the 64-bit bus architecture will be backwards compatible with ISA and EISA cards, but not upgradable. Instead the new bus will be designed as an asynchronous bus capable of handling streaming data. The EISA bus was originally developed by a consortium of nine companies, led by Compaq Computer Corp.

ORACLE BENEFITS FROM UNIX TAKE-UP

Commenting on its third quarter and nine month figures - see below - Redwood City, California-based Oracle Corp notes that during the third quarter, licence sales grew by 30% year-to-year while service revenues expanded by 25%. Growth in Oracle's Unix and Desktop businesses continued to outstrip older proprietary systems - mainly VAX and ES/9000. Unix licence revenues increased 43% over the third quarter of fiscal 1992, with Desktop licence sales growing 35% over the prior period, and the two together comprised 75% of total licence revenues for the quarter, compared with 69% of total licence revenues a year ago. Geographically, Oracle says its domestic US business improved on a strong second quarter - fuelled by Oracle7 sales, it was up a remarkable 65% on a weak fiscal third quarter 1992, but that the strong dollar limited revenue growth at Oracle Europe to just 4% - but the currency translation was unfavourable by 11%. Oracle Intercontinental revenue grew 37% over the third quarter of fiscal 1992. Pre-tax margins were 18.6% for the quarter, up from just 9.3% a year ago, the company said. The firm's third quarter net profits was up 73.9% at \$29.2m on turnover that rose 27.8% at \$370.1m. Net profit for the nine months fell 11.0% at \$29.1m after a \$43.5m charge for the cumulative effect of the change in the method of recognising revenues, on turnover that rose 25.9% at \$1,030m. Net earnings per share, up 67% to \$0.20 in the quarter, slipped 13% to \$0.20 in the nine months.

WIND RIVER HAS NEW REAL-TIME SYSTEM

Alameda, California-based Wind River Systems Inc has introduced version 5.1 of VxWorks, its real-time embedded development environment. The new release includes enhancements to the VxWorks operating system, a new set of software tools and improved communication links between the two environments. The VxWorks operating system now complies with ANSI C specifications and supports Posix.4 real-time extensions. It includes improved memory management functions that provide memory partitions for a variety of Unix-compatible routines. The partitions are used to combat memory fragmentation and to enable users to configure the size of target systems memory pools. New software modules include VXVMI, a virtual memory tool, which sets up virtual memory capabilities on target systems for run-time and debugging purposes. It also comes with a programmers interface that enables users to customise virtual memory features. VxMP, Wind River's multiprocessing module, extends VxWorks support for system-wide control of up to 20 processors. VXMP is based on a shared memory architecture, which reduces run-time memory requirements and extends the message queuing facilities across a network. Wind River has also enhanced its WindX X-Windows client package to support Motif. The product now allows users to develop applications on target machines and then graphically display them on Unix workstations or X-Terminals. Enhanced communication support includes new remote procedure calls (RPC), which enable VxWorks tasks to be carried out on other systems; and extensions to semaphore signals (a semaphore is a special-purpose data type). VxWorks version 5.1 is available on a wide range of Unix machines including Hewlett-Packard Co HP-UX, DEC Ultrix, IBM AIX and Sun Microsystems Inc SunOS - support for SunSoft Inc's Solaris will follow later this year. The product out now, is priced at \$20,000 - £15,000. +1 510 748 4100 or +44 21 359 0981.

LOTUS PULLS OUT ALL THE STOPS WITH NOTES 3

Lotus Development Corp duly launched Release 3 of its Lotus Notes client-server applications environment for workgroups last week (UX No 428). The Notes Starter Pack, priced at \$1,000, features a new Notes Server for Windows 3.1 and supports Novell Inc NetWare, Microsoft Corp LAN Manager and Windows for Workgroups local networks; a Notes Starter Pack for OS/2 is planned. Volume shipments will begin in late April, and Unix versions of Notes will be available in client and server implementations in the second half of 1993 for Solaris, AIX, HP-UX and Santa Cruz Operation Inc Unix. A version of Notes for IBM Corp's OS/2 Workplace Shell and a NetWare Loadable Module version will ship in the second half. A single Notes Release 3 client or server licence is \$500. It is also enhancing support and Customer Support arm will offer expanded options to make sure customers succeed with installation, use and deployment of Notes 3. Basic Telephone Support is \$300 per year or \$50 per call in the US. Premium Telephone Support is \$2,500 per year or \$150 per call. The fees associated with On-Site Services range from \$1,200 per day, with typical engagements being half a day to five days. It plans a broad-based programme for developing an industry of Notes partners, and a two-tier distribution strategy designed to make the thing readily available through distribution channels used by personal computer networking and application developers. A new Notes Developers' Programme is underway to recruit and provide technical services to commercial software developers providing products based on Notes technology.

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The weekly information newsletter for the UNIX™ community worldwide

Just after we closed for press last week, news came through that **NCR Corp's** chairman and chief executive Gilbert Williamson would retire from the company in May and would be succeeded by Jerre Stead, currently president of **AT&T Co's** Global Business Communications Systems, which he is credited with having turned around; Stead, 50, will have the title group executive-NCR, and will be succeeded by Patricia Russo, currently vice president- national sales and service for the Global Business Unit; although the switch is being presented as amicable, there are mutters that AT&T is concerned that NCR has not had a higher profile since acquisition.

Unix International has shut down its one-person Australian outpost leaving only secretarial liaison.

The Unix festival, **Uniforum '93**, didn't feel like it was as successful a show as it was last year. Spread out over a lot more acreage and split into two widely separated pavilions, attendance looked sparse and the aisles empty despite show management's claims of a 10% increase in traffic. Like as not, its thinking about pre-registration which was up. Unofficially we hear attendance was down. Uniforum is still more a Unix celebration than anything else. It remains to be seen whether there will still be things to celebrate or whether erosion has set in.

Ascii Corporation, the Japanese software company founded by Bill Gates' erstwhile buddy K Nishi, is going to start peddling **UnixWare** in April figuring it can do \$4.2m in sales year one. A Japanese-language version is due in July. Ascii figures 30-50 VARs out of the 200 who sell **Informix** should bite.

Like clockwork, just as we promised (UX No 424), **Unix System Laboratories** wheeled out its SVR4.2 versions for Sparc and Mips RISCs at Uniforum, saying they were immediately available. **ICL Plc** and **Fujitsu Ltd**, which helped with the Sparc port, and **NEC Corp**, which helped with the Mips iteration already have them on their machines.

Microport Inc, Scotts Valley, California, which recently became the first non-hardware licensee of **Unix System Lab's** unannounced SVR4.2 ES/MP, has started shipping an ANSI C Compiler for **Intel Corp's** Pentium processor from Unix System Labs. The optimized compiler has a blended mode option for applications that will run on 80486 and Pentium boxes as well as a Pentium-only mode. Microport thinks it is the first USL licensee to make the compiler available in shrinkwrapped form. It is available as a \$400 option on Microport's multi- and uniprocessor Unix SVR4 software. The compiler is reportedly 10% to 20% faster than the top-ranked GNU C Compiler.

DTK Computer Inc says it has a Tsunami-based **Sun Microsystems Inc** workstation compatible with three times the graphics performance of the Sun Classic. Called the DTK Station Classic+, it comes with either Solaris 1.1 or 2.1 and an optional second 240MB hard drive, CG3 graphics for 1152 x 900 resolution and a 14-inch colour monitor. It's priced at \$3,700 with availability starting in May. French outfit **Option Plus**, in Nanterre, is selling the DTK clones as its Saturn series on the continent. +33 1 4725 1818

X/Open Co Ltd is about to embark on the largest Xtra process ever. It expects to invite 50-75 user groups worldwide to participate, get 35-50 of them actually involved and circulate 10,000 multiple-choice questionnaires in six languages: English, French, German, Spanish, Chinese and Japanese. Right now it's trying to figure out how to get feedback from the non-industrial nations. Results will probably be unveiled in Rome in early December.

Electronic News claims **Cypress Semiconductor Corp/Ross Technology Inc** is talking to **Intel Corp** about applying **HyperSparc's** cache controller/memory management and multiprocessor technologies to the P6 chip. The company didn't deny it. Quoting **Cypress** chief TJ Rodgers, **Electronic Engineering Times** adds that the **Ross Technology** subsidiary could be shuttered if **Sun Microsystems Inc** doesn't pick up the 66MHz **HyperSparc** chip in a next-generation box. The company's next Sparc processor, the 100MHz **Viper**, has been backburnered pending Sun's decision. An 80MHz **HyperSparc** is expected to sample soon.

Precision Software GmbH, the German distributor of Boulder, Colorado-based **XVT Inc's** graphical user interface builder is opening an operation in Swindon, UK, called **Professional Software Ltd**: the unit, run by former **Cambridge Computer Graphics** sales and marketing manager, Paul Morgan, will take over **XVT** distribution from London-based **Personal Workstations Ltd**, which will become a customer for the product.

The Santa Cruz Operation is reportedly going to change the name of **Open Desktop** to something more in keeping with the server: **Open Server** perhaps?

One of our little birds claims **IBM Corp** has been negotiating the sale of its PC division. The would-be acquirer is said to live within the city limits of Santa Clara, California. Geography may not be our strong suit but, if it's true, the rumour smacks of **Intel Corp** which, let's face it, has the gall and the cash to do it. Are people really going to buy PCs without true blue Intel inside? If **IBM** is contemplating dumping PCs, which cost it money every time it sells one, that would make Rios and soon-to-be **PowerPC** machines its entry level. Interesting notion. **IBM** also, it seems, has rights to develop and market **Intel Corp** Pentium derivatives.

The betting last week according to **The Wall Street Journal** was that **IBM** would tap the cookie cutter, **RJR Nabisco's** Louis Gerstner, 50, as its new CEO, perhaps this week provided they can sew up his compensation plan. He's not a technologist. He was a **McKinsey & Co** consultant, then president of **American Express** and is brother of former **IBM Corp** top staffer Richard Gerstner. Under Gerstner's reign, **RJR** has slashed its \$29,000m debt by more than 50%, partly by selling off corporate assets - "He is a guy who likes to break things up," commented Curt Rohrman, a **First Boston** analyst who follows **IBM**. There's talk of setting up an advisory board for him to consult. In response to the news, **IBM** stock took another hit, off more than 3 points.

AT&T decided as a going-away present to present a bunch of "Unix Awards" at its "End of an Era" bash at Uniforum (UX No 428). Recipients included Robert Fabry, **CSRG** at **UCB**; Deborah Scherrer, **LBL**; and Bob Schiefler, **X Consortium** in the Academic Driver category; Mike DeFazio, **USL**, Armando Stettner, ex-**DEC**, Bruce Weiner, **Mindcraft** and Bob Marsh of **Onyx** and **Plexus** fame for Unix Evangelism; Steve Bourne, Vinton Cerf, Jon Mashey and Eric Schmidt for Technology; Jim Bell, Walter De Backer and Heinz Lycklama for Standards; **Frame Technology**, **Informix**, **Oracle** and **Sybase** for Applications; Larry Crume, ex-**AT&T** now **Lotus**, Geoff Morris, **X/Open** and Yoshiro Yoshioka, **Fujitsu** for Global Market Building; **HP**, **SCO** and **Sun** for Business Commitment; **Burlington Coat Factory**, **DHL**, **Federal Express**, **Hyatt** and **Wal-Mart** for using the stuff; Pamela Gray, Bill Joy and Doug Michels for Lifetime Achievement; and Mike Azzara, **Open Systems Today**; Ed Taylor, **Pencom**; and our own Maureen O'Gara for Special Distinction. Two of the crystal awards were stolen during the ensuing festivities.

That long-anticipated non-profit X trade association, the **X Industry Association**, brainchild of **The X Business Group**, is getting off the ground. They've picked themselves a chairman in David Harris of **Adobe** and the board includes Peter Winston of **Xhibition**, Peter Shaw of **AGE Logic**, Stephen King of **Tektronix**, Brian Fitzgerald of **DEC** and Michael Harrigan of **NCD** and Anil Malhotra of **IXI**. Members include **ADDS**, **Grafpoint**, **Hummingbird**, **Kinesix**, **Non Standard Logics**, **Omron**, **Shographics**, **TeleSoft**, **Visual Edge** and **Walker, Richer & Quinn**. It's going to market, promote and educate in the name of X, leaving the **X Consortium**, while it still exists, to grapple with the technical issues.

Unix System Labs' ex-director of strategic marketing Paul Calkin has surfaced as a principal in **Systems & Software Integration & Distribution** where he and his staff are consulting with PC and low-end Unix companies on high-end strategic and sales issues. +1 215 584-9882

Don't know why we never realized it before but **Sun** chief executive officer, Scott McNealy is the firm's largest single shareholder with about 2.1m shares or 2.2% of the outstanding stock. That makes him worth about \$60m on the hoof. Not exactly Bill Gates but then who is.

Well, ladies, with Bill Gates getting married that leaves **Sun's** Scott McNealy to soldier on alone as the industry's most eligible bachelor. We couldn't help but notice he had almost as much trouble saying the word "marriage" at the COSE announcement at Uniforum as the word "Motif." According to the front page of **The Wall Street Journal** last week, Gates, 37, is engaged to Melinda French, a 28-year-old Dallas-born Duke University MBA and six-year Microsoft veteran currently in charge of the company's Publisher desktop publishing software. Rivals are apparently grateful, hopeful marriage and a family will take some of the edge off of Gates' competitiveness. **Microsoft** stock closed up 3.25 points.

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COSE IS "PART ONE" OF THREE-STAGE "UNIFIED UNIX" VISION

From the outset we've known COSE, the Common Open Software Environment, to be more than just a unified desktop interface, and this week, two more pieces of the COSE puzzle appear to be dropping into place. COSE II for networking, interoperability and distributed computing, COSE III for system management - see below - and there's more we don't know. COSE, it has emerged, is part of a much wider recipe that was originally cooked up by Hewlett-Packard Co and IBM Corp, prime movers in the effort to meet the threat of Microsoft Corp Windows NT, and probably two of the firms with potentially the most to lose. The objective of their "Unified Unix" vision (UX No 429), is to put together a cost structure for open operating environments that can match NT on the desktop. The two appear to be working through a shopping list of NT's ingredients, ticking off those features and functions which can already be found in their own, or equivalent open systems products on, or coming to market. The simplest way of getting the outstanding items on board as cheaply as possible, is through technology exchange and cross-licensing and COSE was seen as forum for this. The other COSE firms were approached to support an effort that became bigger than HP and IBM could handle alone. IBM and HP decided - or were persuaded by independent software vendors - that a common kernel wasn't needed to take on NT, which is why COSE does not address the issue, even though some observers still believe the perceived lack of a common Unix kernel will hand Bill Gates a propaganda advantage. In HP's view, "users don't give a damn about the kernel anyway, they need application programming interfaces," says European computer systems marketing manager Bernard Guidon. He says the COSE process is just a way of breaking "Unified Unix" down into attainable goals. Although inspired by the threat of NT, Guidon claims COSE also grew out of pressure on HP and IBM from large end users and ISVs demanding Unix standardisation. Novell Inc's acquisition of Unix System Labs made the COSE desktop effort easier, he says, and - with the exception of NT supporter Digital Equipment Corp - agreement with the other Unix suppliers was relatively painless.

COSE II and III

Guidon, who describes COSE (I) as the "tactical execution" of an agreed set of desktop strategies, says COSE II and COSE III will follow because "it doesn't make sense to unify the desktop if you don't do the rest." Just how COSE II and COSE III will turn out remains unclear, although a systems management working group COSE firms have initiated will likely be a vehicle for these developments. According to Guidon, COSE II will include everything related to networking, distributed computing and interoperability. An alpha specification - described as OSF Distributed Computing Environment plus a "broader set of distributed computing services" - with an application development environment, is now doing the rounds. This part of the vision is agreed, Guidon says, an implementation strategy is outstanding. The more shadowy COSE III should result in a standard distributed systems management environment specification, that may include the Tivoli Systems Inc object API. Guidon says meetings are going more or less constantly - an X/Open-hosted COSE get together in Menlo Park this Tuesday will likely be used to take stock. Digital Equipment Corp, left out of the COSE initiative, has been invited and says it will send its X/Open representative as observer.

...AS HP AND IBM WORK ON CLOSER RELATIONSHIP

Hewlett-Packard Co and IBM Corp's "Unified Unix" effort is thought to be part of a much broader set of strategic discussions the two firms are having on how best they can collaborate on a wide range of technologies. COSE - and IBM's attempt to woo HP to its object-oriented Taligent operating system effort with Apple Computer Inc (UX No 425) - are thought to be manifestations of these talks. HP's Bernard Guidon says the strategic goal is to have joint agreements in place by the end of this year. He denied rumours that HP might give up its PA RISC architecture for the IBM/Motorola Inc PowerPC, but said the two firms are "technically close", and that HP is "flexible."

88OPEN FUNDING WITHDRAWN, FUTURE OF 88000 "QUESTIONED"

Things took a sudden twist at 88open last week when 19 of the consortium's 23 full-time staffers reportedly had their contracts terminated. Sources said they have been given six weeks to finish their assignments and another four weeks severance. The dismissals, believed traceable to members backing out of their combined \$3.5m pledge to continue funding the operation, leave president Tom Mace, technical vice president Andy Silverman, operations manager Claudia Marshall and a secretary in place. It is said 88open will try to continue its activities with no staff and to hive off a separate company to peddle its conformance testing technology as it recently planned (UX No 429 and see page two). Mace declined to comment other than to say that "we are in the process of trying to figure out how to set up a separate company." Motorola Inc is reportedly concerned the move will fuel suggestions that the 88000 RISC chip is dead even though it may be at least partially responsible for the short-fall in 88open's funding. Motorola did not return calls by press time.

SOLARIS UP ON POWERPC

Earlier this month SunSoft Inc president, Ed Zander, told us to expect a version of its Unix operating system to feature on the PowerPC RISC (UX No 426). Last week Sun Microsystems Inc's software unit made good the promise and announced it would be working with Motorola Inc's Semiconductor Products Sector to get Solaris 2.1 up and running on the IBM Corp/Motorola-developed RISC. PowerPC is the second port of Sun Unix outside the company's Sparc CPU base. Solaris made its official debut on Intel Corp iAPX-86 last week - see page 4. The way is now open for SunSoft to join PowerOpen, a group vendors supporting PowerPC, which includes Apple, Bull, Harris, Tadpole Technology and Thomson-CFS. IBM AIX Unix and Apple Macintosh operating systems are already destined for the architecture. SunSoft presumably believes it can win PowerPC customers for more standard Unix SVR4-compatible system software: Tadpole already integrates Solaris on its Sparc-based laptops and will likely do the same for a PowerPC line. Sun chief executive officer Scott McNealy claimed the move would deliver to Solaris the three volume chips likely to survive: PowerPC, Sparc and Intel. As SunSoft resources are moved off the new Intel port, he said, they would be dedicated to the PowerPC. McNealy said the port would be ready in late 1993. SunSoft president Ed Zander immediately contradicted him, saying the date would more likely be early next year. Few details were available. It remains to be seen who would use it and how it will be sold.

88OPEN: LIFE BEYOND THE 88000?

by William Fellows

88open's world shrinks painfully with every defection from the Motorola Inc 88000 RISC camp, or the adoption of a dual-architecture strategy by a formerly loyal vendor. Members of the not-for-profit support organisation, other hardware developers and independent software vendors that have passed through its binary testing and certification schemes are nevertheless full of praise for the work 88open has done. Now reduced to a shell with news that members are believed to have backed out of providing their \$3.5m dues - see front page - the organisation must now offer its testing services on other chip architectures if it is to survive in any form (UX Nos 424, 429).

Last year, on the back of industry acclaim for its work, 88open took some first steps beyond the 88000 horizon by offering its binary testing suites to other vendors and organisations. It netted only Hewlett-Packard Co and the Precision Architecture RISC Organisation (PRO) as a customer. Potential users apparently wanted 88open to undertake the difficult job of porting and administering the test suites on their architectures too, something not possible under 88open's current charter. The 88open offshoot will come into being in or around May, providing it doesn't get itself bought outright before that happens. It'll bring with it some very focused ideas about binary compatibility and porting issues that face the industry, derived from its experience with the 88000.

Common

The problem with source code for example - even standardised and tested source code - is that it always ends up going through a variety of different compilation systems. This process means, inevitably, that the code will get different calls when running under different operating systems. So one of the first issues to be resolved, as Steve Heath, director of 88open operations in Europe sees it, is to define the ways in which different compilers interpret source code and how, in turn, operating systems utilise different compilers and compilation techniques. At this level, the number of bits used, alignment and requirement for there being no reserved bits in the mechanisms becomes important. This is processor-independent stuff, according to Heath, who says most Reduced Instruction Set Computing (RISC) architectures already share common notions in these areas and most are now able to deal with software that is written to either Big Endian or Little Endian byte ordering styles.

Killer

Once terms of reference for the way code, compilers and operating systems work together are established, things that prevent software being ported across different platforms need to be addressed. There are a collection of these miscreants - Heath identifies file formats, disk formats and install scripts as notable examples. Next, Heath argues, CPU-specific issues like register stacks and context switching need to be standardised. Although this stuff is low-level, if instructions are correctly coded and subtitled, there's no reason why software can't be ported across standardised, low-level mechanisms. After all this is done "then you have a standard," says Heath. "That's easy. But how do you test for it?" X/Open Co Ltd has some two or three thousand tests for conformance to its XPG portability guide. Static testing to check, for example, that all system calls are correct is fine, says Heath. "But for real compatibility, software needs to be tested dynamically," as it is being executed. "You need a test harness for testing stuff dynamically. That's the killer."

Burnt

Lack of dynamic testing can mean that for some independent software vendors less than 20% of their application code is relevant, which can lead to any number of unforeseen problems when the application is run under different environments. Heath's example is a hypothetical software firm's development team, which claims to have developed the latest all singing, all dancing application, which of course is portable. The marketing team goes out and finds 20 odd platforms to sell on to. However, only 20% of the code gets tested and when the software is recompiled and run under these other environments, it often doesn't work properly. The company gets burnt by the cost of extra development time and resources needed to correct or re-write the application for each architecture. Thereafter the firm might carefully choose one or two platforms and do a thorough porting job, probably thinking at the same time 'there must be another way.' Moreover, as revenue derived from upgrades and add-on sales becomes increasingly important to the software industry's business model, binary compatibility across different platforms and between old and new versions of application software becomes ever more critical. A company needs extremely good porting and testing tools for these jobs - of just the kind that are available for the 88000, argues Heath - even more so given that some end-user customers are even demanding certification as part of their acquisition/procurement process, 88open says.

Bigger than the 88000

88open uses 5,000 tests for compliance with the 88000 application binary interface and has both static and dynamic test harnesses. Its verification programme demands a minimum 80% of binary code is tested dynamically - 100% statically - before certification is awarded. X/Open's XPG suites test source code. That's fine, argues Heath, for what X/Open has set out to do. The problem is that XPG is like defining an English language. The English will get interpreted one way in the UK, differently in the US, and in other ways elsewhere. The point is, argues Heath, that the industry is developing more binary-to-binary compatibility and emulation techniques. As these technologies mature, underlying architectures matter less. Software costs a lot and it should be re-usable across different platforms. The key to 88open's future, as he sees it, is being able to test and certify binary compatibility across platforms that do not include an 88000 processor or application. The more architectures on which 88open is able to offer its testing and certification technologies, the more hardware and software suppliers will come knocking on its door.

XEROX'S XSOFT LOOKS FOR BIG BUCKS IN EUROPEAN MARKET

Xerox Corp's XSoft document management software division says it is opening new sales and services centres in London, Zurich, Dusseldorf and Paris. The move reflects the importance of the European market, which is expected to generate 40% of the Palo Alto company's 1993 revenues. The UK office is to service Northern Europe - Norway, Denmark and Finland. Central Europe - Germany, Switzerland and Austria - will be jointly handled from Zurich and Dusseldorf. The French office will cover Belgium, Spain, Italy, Greece and Portugal. Rank Xerox Ltd will remain a major XSoft distributor, to which a network of systems integrators, value-added resellers and dealers are to be added. Accompanying the news was the launch of InConcert, a new workflow manager for client-server systems. InConcert works by modelling business processes and tracking documents like spreadsheets, forms and graphics through each stage. It has a graphical user interface, provides SQL database support and can be easily customised for a variety of applications such as publishing, insurance, legal, retail distribution, health care, aerospace and government. It is available in client and server implementations for Sun Microsystems Inc Sparcstations and IBM Corp RS/6000s along with 80386 and 80486 personal computers. European pricing is expected to come in around that of the US at \$22,000 per server licence. XSoft added that its GlobalView for X document management system will now run on IBM Corp's RS/6000s and Sun Sparcstations running SunOS 4.1, Open Windows 2.0 or the Motif Window Manager. User licences are £1,500. Also promised soon is Version 1.5 of its personal computer package Rooms for Windows, to be followed by Rooms for X Window.

EXCALIBUR HAS PIXTEX UP ON UNIX

Excalibur Technologies Corp, which moves about a bit and is now headquartered in San Diego, has begun shipping its PixTex/EFS 3.0 document imaging software to a much broadened list of machines, including Sun Microsystems Inc Sparcstations, Hewlett-Packard Co HP 9000 Series 700s, IBM Corp RS/6000, and Digital Equipment Corp Ultrix, VAX/VMS and Alpha AXP/Open VMS servers with Windows, X Window and Macintosh clients. The new version of the software automatically indexes, stores and retrieves digital information. The company's fuzzy searching technology enables searches with free-form queries on full-text contents, document names and file labels, and users can find information even if documents are misfiled or queries are misspelled. The technology also overcomes common optical character recognition processing errors, eliminating the need for cleaning up OCR-processed documents. The software provides links to external databases including Oracle, Informix, Rdb, Sybase and Ingres and Excalibur also provides local area network support through TCP/IP to Windows and Macintosh clients in Unix environments, and DECnet to Windows and Macintosh clients in DEC/VMS environments. No prices were given.

GERSTNER TAKES IBM HELM SAYING HE SEES "NO QUICK FIX"

Recklessly deciding that the appointment was to become effective on All Fools' Day, April 1, IBM Corp duly named Louis Gerstner to the posts of both chairman and chief executive. Gerstner said at the announcement that he sees "no quick fix" to turning the company around - "I have no idea how long it will take," he said, adding that his first priority is to listen and learn from the IBM management team. Over the next few months he and IBM's board will look at IBM with "a no-holds barred" approach. "I have the authority necessary from the board to build this company over," he said, adding that he was not sure that breaking the company up would be the right approach. "This is going to take time," he said, adding that he does not yet have plans for IBM - he has to first learn the company by meeting executives, managers and employees. He is starting with a teleconference with 100 IBM managers around the world. The selection board said that Gerstner was the first person they had spoken to when they began their quest for a new chief in January. IBM's shares rose slightly after the appointment was announced, rising 75 cents to \$51.25. Traders said the fact John Akers will be leaving soon was likely a contributing positive to the stock. Gerstner is a colleague of Akers on the board of The New York Times Co, and he is also said to know former IBM chief executive Thomas Watson Jr, who lives in the same Greenwich, Connecticut suburb as Gerstner. A pay and benefits package for Gerstner is valued at over \$7m. He will receive an annual salary of \$2m, a one-time transition payment of \$5m and a string of other incentives including a performance incentive potentially worth \$1.5m a year, though the goals themselves were not detailed. The big bucks are tied up in the options on 500,000 shares of IBM stock he gets to exercise. He'd make \$500,000 for every dollar the stock rises or \$46m if the stock ever gets back to the \$145 range. If the stock declines, the options are worthless. On the news the stock fell \$1.625 to \$50.125. The package is far more than predecessor John Akers got.

KUBOTA HAS DENALI FOR ALPHA AXP

As expected (UX No 424), Kubota Pacific Inc, Santa Clara, California, yesterday announced the availability of Titan 2.0 - now renamed Denali - a line of three-dimensional graphical and imaging subsystems for Digital Equipment Corp's Alpha AXP workstations running the OSF/1 operating system and built upon the firm's own custom chip technology. Denali is configured at three levels: low-end E series models 15, 25 and 35 offer mid-range graphics performance; P series models 310, 410 and 510 deliver high-performance 3D graphics imaging; whilst V series model 520 and 620, offer high-end texture mapping and imaging functionality. The eight models will be housed in "pizza box" desktops which plug into TurboChannel slots on DEC AXP 3000/400 and 500 workstations. Kubota claims performance ratings of between 200,000 and 1.2m shaded triangles per second and 350,000 to 2m 3D vectors per second. The subsystems include texture mapping support, double buffer colour animation and hardware image processing. Two- and three-dimensional graphics and image processing is provided through a set of Transform Engine Modules (TEMs) and Frame Buffer Modules (FBMs). TEM software handles functions such as light reflection calculations and geometry, while FBM provides off- and on-screen memory, Z-buffer comparisons, alpha blending and compositing functions. Kubota says Denali is binary compatible with all applications ported to DEC's Alpha-OSF/1 systems and is upgradeable from its existing Titan 1.0 series. Graphics standards supported include PEX, PEXlib, DEC PHIGS+ and NPGL. UK prices start at from £11,300 to £40,700. The name Denali derives from the Inuit (Eskimo) name for Mount McKinley, Alaska's highest peak.

PS'SOFT ADDS THREE

Paris-based Axial Consulting Group's PS'Soft division has added three new modules to its Qualiparc Multi Platforms system management software which can be used in conjunction with a variety of Unix and non-Unix databases, running under Motif, Windows or Presentation Manager. Qualiparc Hotline is a new fault management package, Connectic maps networking and communications connections - Query reports on system status. Qualiparc is built upon the Uniface software development environment and costs from £5,000 up. Hotline is priced at from £3,500 for 200 users. The French RATP train service has Qualiparc up on its 7,000 workstations. The eighteen-person PS'Soft unit sells only in France at present, but expects a UK outlet to be established soon. +331 4692 3512.

DEC TO OFFER ALPHA, PENTIUM PERSONAL COMPUTERS AT SAME PRICE

With both the Intel Corp Pentium processor and its own Alpha RISC chip ready to enter the personal computer market this year, Digital Equipment Corp is expected to get around the problem by offering parallel lines of nearly identical systems based on the two chips, *US PC Week* reports. But, the paper reckons, DEC will artfully slant the two lines to give the Alpha machines the price-performance edge. DEC will invite users to choose between Pentium- or Alpha-based systems with the same configuration and prices, but the Alpha machines will offer higher performance - DEC will offer an Alpha machine with a 150MHz CPU at the same price point as a 60MHz Pentium system. The 60MHz Pentium has been rated at 58.3 in the SPECint92 integer performance rating and 52.2 in the SPECfp92 floating-point rating. The 150MHz Alpha chip rated 74.3 and 125.1 respectively on the same benchmarks. The chips are expected to cost about the same when in volume production.

USL SEEKS REVERSAL OF BSDI DECISION

In the matter of its lawsuit against Berkeley Software Design Inc for copyright infringement and misappropriation of trade secrets, Unix System Labs has decided to file a petition for reconsideration with Judge Dickinson Debevoise before it goes over his head to the Circuit Court of Appeals (UX No 427). USL is asking him to reconsider his recent denial of a USL bid for a preliminary injunction halting distribution of any BSDI code. USL claims the judge came to an incorrect conclusion of law based on an incorrect understanding of the facts over whether 32V Unix should have carried a copyright notice or not. USL says it shouldn't - and didn't - have one because it was a limited publication, subject to a different set of rules than stuff that's generally circulated. USL will take it to a higher court if the judge doesn't overturn himself. The BSDI contingents hopeful that Novell Inc will quash the suit once it takes USL over may be barking up the wrong tree. USL says Novell has been kept abreast of its strategy and efforts and has indicated its support.

CRAY RESEARCH REPLACES ENTRY-LEVEL Y-MP EL WITH TWO-PROCESSOR EL98

Cray Research Inc has completed the renewal of its supercomputer line with launch of the Cray EL98, its new entry-level machine, which offers times the memory of Cray's original Y-MP EL. Pricing for the two-processor EL98 begins at \$340,000, the same price as the single processor Y-MP EL, and can be expanded to eight processors; existing Y-MP ELs can be upgraded to the new version; Cray says that it has taken five orders for the new machines, and expects to introduce the next generation of its super computer family by the second half of 1994.

...AS CRAY COMPUTER RUSHES OUT SMALL CRAY-3s TO EARN VITAL CASH

Meanwhile, Cray Computer Corp, Colorado Springs, says it will start shipping its first scaled-down versions of the much-delayed Cray-3 in a bid to raise cash. Prices start at \$2.95m for a uniprocessor version of the 16-processor machine. The company has predicted that it may run out of money as early as July without new customers or an infusion of cash from the outside. Cray-3 systems with one, two and four processors will be available for shipment in mid-1993. Eight-processor versions will follow at year-end with 16-processor machines shipping in 1994. The company also said it is working out details of a tentative \$5m settlement of a shareholder suit filed after it lost its only Cray-3 customer.

EURO SOFTWARE GROUP TAKES SHAPE

A group of 15 European firms in a range of businesses have come together to create the European Software Institute to improve skills in developing computer software. The Institute, to be based in Bilbao, Spain, will work with customers on software processes and methodology, according to Compagnie des Machines Bull SA vice-president Georges Grunberg, who is the acting chairman. The other founders are Bilbao Bizkaia Kutxa SA, GMD SA, Eritel SA, Finsiel SA and Iberdrola SA from Spain, British Aerospace Plc, the Electricity Supply Board, Lloyd's Register and Logica Plc, Sema Group Plc, Cap Gemini Sogeti SA, Telecom Ireland, Siemens-Nixdorf Informationssysteme AG and Ing C Olivetti & Co SpA. Each of the founders will pay \$118,000 a year for three to five years to fund the Institute, which will have a staff of about 50. It hopes to build its membership up to between 100 and 300 companies in the medium term.

SOLARIS x86, MOTIF AND LIVE! AT SUNSOFT DEVELOPER CONFERENCE

by Maureen O'Gara

SunSoft Inc rolled out its feature-for-feature, bug-for-bug port of Solaris 2.0 to Intel Corp iAPX-86 architectures at its 1,700-strong Software Developers Conference in California last week, pitching it as a platform for enterprise-wide client/server computing. Deliveries on a CD-ROM won't start for another 60 days (UX No 428). The software requires a minimum 33MHz 80386DX machine with an 80387 co-processor, 12Mb RAM - though 16Mb is recommended - and a 200Mb disk, though 300Mb is better. It supports the ISA, EISA and MCA buses, IDE and SCSI interfaces and any Adobe Postscript-compatible printer. Three hundred native applications are reportedly in the process of moving to Solaris x86. Users can also access the 1,800 applications currently porting from Solaris-on-Sparc 1.x to 2.x by downloading them from a Sparc server to an Intel client. Many of the 2,000 Interactive applications will run on Solaris x86. Admitting the channel has to be "reinvented," SunSoft still intends selling Solaris x86 wholly indirectly. Its newly established corporate sales force is meant only to drum up demand among the Fortune 1000. Sun Microsystems Inc, the company's hardware arm, will put the operating system in its end-user price book and AST Research, CompuAdd, Dell, Toshiba and Zenith Data Systems, all of them companies committed to Solaris x86 since the middle of last year will OEM it. SunSoft has also lined up several large American distributors namely Ingram Micro, Merisel, Tech Data, Access Graphics and Gates F/A to peddle it and says it has authorised over 2,000 US resellers to handle the product. SunExpress, the company's catalogue operation, will start moving it in July. In Australia Solaris x86 will be distributed by Tech Pacific. In Europe it will move through Bacher, Bytek GmbH, DSD SA, ComTrad International, Merisel Europe, Scribona Sverige AB, Morse Computers Ltd and Technology plc. ComTrad will also open South America. Sun CEO Scott McNealy indicated aggressive volumes are expected from the software but would not discuss actual numbers. SunSoft pooh-poohs any conflict between Sun and the resellers. Support will be initially provided by Sun's worldwide support organisation under a non-exclusive arrangement. SunSoft expects to authorise other service partners later this year. It stuck to its guns on pricing, listing the client-side Solaris Desktop at \$795 in single quantities. It reckons its targeted accounts will pay the premium for high-performance software and that the channels need a decent margin. The Solaris Workgroup Server for small to mid-range departments is \$1,995 in single quantity. The Solaris Enterprise Server is \$5,995 in single quantity. The Software Developer's Kit is \$495 and the Solaris Driver Developer's Kit for hardware vendors for building drivers is \$195, both quantity one. SunSoft claims it is offering better value for money than its nearest competitor Univel Inc which just dropped the price of its UnixWare client to \$250 anticipating predatory pricing by Microsoft on Windows NT (UX No 428). SunSoft says it would actually cost \$843 to get from Univel what the Solaris Desktop offers at \$795 since it includes symmetric multi-processing, 3D graphics, ToolTalk and Solaris Live!, new hardware-independent network multimedia facilities. Similarly it would cost \$1,295 with the SCO, \$995 with Next, \$1,350 with IBM and \$1,195 with HP.

SunSoft has enhanced Solaris 2.0 to 2.2 (though it's not officially calling it that) boosting symmetric multiprocessing performance 60% over the previous version as measured on an 8-way. Perhaps most importantly it's the platform for Sun to add the Motif toolkit compliments of IXI Ltd. It provides a set of user-accessible threads to accelerate I/O and concurrency particularly for database applications. Networking is reportedly 10%-15% better on transferring data and there's on-demand access to CD-ROM and floppy disks as well as remote file systems. System administration and the desktop are improved with the latter adding an Image Tool to create, load, view, rotate, zoom and crop images for documents among other enhancements. Solaris 2.2 also has XIL, the industry's first bundled imaging and video library, as part of Solaris Live!. Sun Microsystems Inc should have the stuff on its entire product line in May. Availability is in 60 days - Motif prices are due in 30 days.

SunSoft has several configurations of Solaris x86 available. Solaris Desktop, the \$800 client piece, includes SunOS 5, ONC+ networking, multiprocessing, system and network administration, installation, DeskSet and run-time support for OpenWindows, ToolTalk and the XGL graphics toolkit. The \$2,000 Solaris Workgroup Server gives users access to print service, file service and networking service and multiuser access to applications. It includes all of the Solaris Desktop features and additional technologies such as server networking, naming services and remote administration. The \$6,000 Solaris Enterprise Server allows for compute-intensive tasks, data transaction processing and high-performance multiprocessing. It incorporates all of the Solaris Workgroup technologies plus advanced system administration, commercial-grade I/O and enterprise-wide installation.

SunSoft says Solaris x86 will run on Intel Corp-based Acer, ALR, Grid, Olivetti, Apricot, Compaq Computer Corp, Gateway, IBM, NCR and NEC machines even though they don't have OEMs deals with these companies. Targets for the second half include multiprocessors from the likes of Acer, ALR, AST Research Inc and Compaq. It currently supports graphics cards from ATI, Compaq, CompuAdd, Diamond, Genoa, IBM, Orchid, Paradise and STB; SCSI and disk controllers from Adaptec, DPT and IBM; network cards from SMC, 3Com and IBM; tape subsystems from Archive, Sun, Tandberg and Wangtek; I/O devices from Logitech and Microsoft; and CD-ROMs from LMS, NEC, Sony, Sun, Texel and Toshiba. Since this is mass market time and peripheral connections are very important, SunSoft's wish list for the second half is stuffed full.

Bundles multimedia tools

SunSoft last week introduced Solaris Live!, a collection of multimedia technologies including productivity tools and application programming interfaces (APIs) supporting distributed real-time workgroup collaboration, video conferencing, audio and image integration into electronic documents. The package includes XIL, XGL, PEX and XLib, audio device-independent interfaces, a message set called Media Exchange and multimedia desktop tools like Multimedia MailTool, AudioTool and ImageTool. SunSoft also cut multimedia partnerships with Matsushita Electric Industrial, Toshiba and Centigram to create value-added extensions to Solaris Live!. Respectively they include device-independent device control protocols to enable heterogeneous VCRs, laser disks and CD players to be integrated, a Japanese text-to-speech synthesiser necessary to phone-based data retrieval and TruVoice, a text-to-speech converter and API interface that transforms any text passage into spoken English or Spanish. SunSoft promises that Solaris Live!'s future includes integration with phone systems and object-oriented extensions. Elements of Solaris Live! were included in prior Solaris releases but were never bundled together.

Second phase of DOE complete

SunSoft says it's reached the second milestone in its Project DOE (Distributed Objects Everywhere) programme and completed a distributed object system consisting of the DOMF (Distributed Object Management Facility), SunSoft's implementation of the Object Management Group's CORBA specification, and a set of system objects. It demonstrated the system running around a network at its Software Developers' Conference. It has been turned over to SunSoft's Distributed Object Council, a group of unidentified object developers and major end users who meet frequently with the company to discuss product specifications and plans, for feedback. SunSoft is supposed to make the distributed object system available to key software developers and end users in 90 days.

SunSoft borrowed the laid-back format of the Tonight Show and Johnny Carson - down to the band, the couch and the jokes - to make its announcements last week. It'd be a shame if those well-crafted anti-Microsoft anti-NT ads they ran as ersatz commercials during the breaks don't get a wider airing, if for nothing more than their amusement value.

SunSelect chief Carl Ledbetter says they don't know yet what Windows and MS-DOS applications won't run on WABI, the Windows-on-Unix software it bought when it bought Praxsys Inc. WABI hasn't been productised yet but something's expected shortly and it should be bundled into Solaris this year. Meanwhile, Quorum will put Equal, its Macintosh application adapter on Solaris-on-Sparc, and ship it this quarter. That'll give Sun access to Mac versions of Word and Excel.

Near as we can make out the SunSoft deal with Motorola Inc for the PowerPC (see front page) is very fresh. It was probably completed over the weekend of March 27. Weekends are getting popular for closing deals: COSE wasn't a deal until the evening of Sunday March 14.

SunSoft announced a VAR program designed to educate resellers on selling 32-bit computing. It includes training and education, sales and lead generation; marketing and merchandising support.

SunSoft Inc claims Solaris-on-Intel is being evaluated by Amoco (10,000 units), AT&T Universal Card, DuPont Pixel Inc (20,000 units), Foxboro, Philip Morris, Superior National Insurance and 3M.

INMOS READY TO SHIP T9000 TRANSPUTER

Inmos Ltd has finally launched the long-delayed T9000 Transputer and hinted at the next generation 'Chameleon' technology. Inmos admits that the year's delay lost the company several customers. The T9000 is rated at 200 MIPS and 25 MFLOPS and packs a 32-bit superscaler integer processor, 64-bit floating point unit, virtual channel processor and 16Kb memory on one chip. Its internal communications links operate at 100Mbps unidirectionally, 200Mbps bi-directionally - 10 times faster than previous Transputers. The device is easily scalable - no interface or buffer logic is required to link T9000s - with communication between up to 32 indirectly connected devices possible courtesy of Inmos's C014 Packet Routing Switch. The Chameleon programme aims to produce a number of interconnectable modules that can be used individually, or in combination in single devices. The modules will include 64-bit processors and cache, programmable communications processors, high speed communications interfaces, link routers, floating point co-processor, re-configurable co-processors and dedicated Asynchronous Transfer Mode communication and graphics and video processors. The modular architecture will integrate 10m transistors. The T9000 comes in a 208-pin CLCC and draws 3W in single chip applications; samples are \$700. Details on page six.

OSF GRENOBLE GETS DARPA BACKING

The Open Software Foundation's Research Institute has gotten a three-year multi-million dollar research contract from the US Defense Advanced Research Projects Agency (DARPA) and the Air Force Material Command to develop a distributed operating system for high-performance computing. It will produce a series of prototype versions of the Mach microkernel it has been working on with experimental extensions for real-time and high-trust portable across a range of hardware architectures, especially non-shared memory supercomputers.

PICK LAYING OFF STAFF AND CLOSING OFFICES

Plus ça change...Pick Systems Inc, which two months ago was hiring back some of its old lieutenants (UX No 420), has up and laid off all its vice presidents and managers except its engineering chief reportedly without notice or severance and will close down all but its Russian and headquarters operations. The move, a cost-cutting measure Pick has employed several times in the past, halves the company to thirtysomething, leaving Pick with its development core and about five sales people.

ICL ADDS MANCHESTER TESTING CENTRE

ICL Plc's Openframework Division - which aids migration to open systems - last week opened its second UK Verification Centre in Manchester. The centre will test for interoperability between ICL and non-ICL hardware, software and operating systems at the bequest of customers and ICL says it'll have 12 similar worldwide centres set up by the end of the year - 50 by the end of 1994. It also introduced Systemwise, a CD-ROM package that lists 5,000 hardware and software configurations based on the results of interoperability tests. It is updated quarterly and annual subscriptions are priced at £1,000. The firm also launched a series of books entitled "The Openframework Architecture," which explain systems integration and open systems. The books are published by Prentice Hall and cost between £20 and £25.

SPSS UNVEILS CLIENT/SERVER PACKAGE

SPSS Inc, Chicago, Illinois, has introduced SPSS 5.0, a client/server version of its statistical data analysis software. Enhancements include support for the Open Software Foundation's Motif interface, increased data access, statistical analysis and six add-on software modules. Data access improvements include a data editor in spreadsheet format, support for Ingres, Oracle, Informix and Sybase databases and new transport and file formats. Additional statistical analysis functionality includes modularised statistical procedures, such as time-dependent co-variables and probability functions; high resolution labelled charts and chart manager; hot keys between charts and related numerical data; object-oriented chart editing and a choice of 30 different chart types including boxplot, pie and bar charts and scatterplot matrix. Optional add-on modules include SPSS professional statistics, SPSS advanced statistics, SPSS tables, SPSS categories and trends. SPSS 5.0 is available now on IBM RS/6000s and support for Hewlett-Packard Co HP 700s, Sun Microsystems Inc Sparcstation 10s and DEC's Alpha workstations running the OSF/1 operating system will follow in the third quarter. Support for DEC's Alpha Windows NT will be available in the first quarter of 1994. SPSS 5.0 is priced at \$700. The company will sell SPSS 5.0 direct and through existing distribution channels. +1 312 329 2400, +44 923 566262.

CINCOM SOFTWARE UP ON HP, DEC UNIX

As promised last March Cincom Systems Inc has launched the Unix version of its integrated manufacturing software, Control:Manufacturing. The most obvious change is that the product sports a clutch of graphical tools, all running under Microsoft Corp Windows. The user gets access to everything through the control desk applications application, programmers get a swish Windows-based Developers Workstation and executives get a new Decision Support/Executive Information System. The Cincinnati, Ohio company originally said it would convert its software to run on HP 9000 Series 8000 machines under HP-UX Unix and that Hewlett-Packard Co had signed a joint development and marketing agreement. A similar deal has now been struck with Digital Equipment Corp, and the manufacturing software is available immediately for the Ultrix version of Unix with support for DEC's OSF/1 following in the second half of the year. The portfolio will be further expanded in the future as extra Unix variants are supported; no names yet, except to say that the company is not rushing to implement under IBM Corp's AIX: most customers who are interested in a Unix version are looking for prime open system vendors, says UK marketing manager David Miller, adding that AIX is not usually towards the top of the list. Other new features include international support, not only handling languages, but also country's financial and accounting vagaries and European value-added tax (Intrastat) reporting. Finally, the company was proudly showing of its multi-site support; the software's ability to handle communications between remote plants ordering and producing parts. While this feature is already implemented in the most recent version of Control:Manufacturing for the DEC VMS and IBM versions, its presence in the Unix version means that the new decision support software can collect, summarise and present manufacturing data from across the enterprise. The support software, together with the graphical front ends will appear on the older systems within the next six months, the company says.

TATUNG TRIGGERS PRICE WAR

Tatung Science & Technology Inc, San Jose is trying to extend the personal computer price war to colour workstations, and it is offering discounts of up to \$2,800 on its new SuperSparc-based Super Compstation 7/30 Series. A Super Compstation 7/30 with a 36MHz CPU, 520Mb disk, 32Mb memory, on-board GX graphics accelerator and a 19" colour monitor will cost \$13,490 in the plan. The Taiwanese company reckons that a similar system from Sun Microsystems Computer Corp is currently list-priced at \$20,500.

WANG SELLS TAIWAN UNITS TO PRESIDENT

The President Group of Taipei, Taiwan has effectively paid about \$150m for the Wang Laboratories Inc operations in Taiwan. President has increased its stake in Wang Laboratories Taiwan to 100% from 30% and bought a 51% stake in Wang Industrial, which manufactures personal computers. President, which includes President Enterprises, Taiwan's biggest processed food company, made the purchases through its affiliate, Rong Chen Investment. Rong Chen will pay Wang less than \$300,000 cash, but will cancel obligations of about \$150m the US parent owed one of the Taiwanese units. Wang Laboratories Taiwan has the right to use Wang's trademark in Taiwan and will make personal computers for Wang.

MUST SHIPS NOMAD 4GL FOR UNIX

Must Software International has announced the first versions of its 4GL Nomad software for Unix starting with IBM Corp platforms. Later this year it will add Sun Microsystems and next year Hewlett-Packard. Shipping now, Nomad offers an environment for client/server application development and reporting. It provides a windowed user interface, non-procedural 4GL language, procedural language, reporting and data management facilities, a developer's workbench and a syntax-free reporting front end. It comes with a Sybase SQL Server interface allowing full read/write client/server access to Sybase from AIX, OpenVMS, DOS and OS/2 clients. The company plans to add Motif support in the first half of '94 and comms support via TCP/IP by the second-half of 1994. Single-user price is \$2,500. Multi-user pricing ranges from \$10,500 to \$120,000 depending on machine class and number of users.

ABEL TAKES HELM AT X CONSORTIUM

A replacement for X-Windows pioneer Bob Scheifler as head of the X Consortium has been found in Lou Abel who must now raise funds as the Massachusetts Institute of Technology withdraws support and figure out the consortium's true charter especially now that the industry has established a trade association, the X Industry Association (UX No 429). Abel, who's apparently got a CAD/CAM background, worked for himself as Procon Systems Inc. He's been with Data General, Via Systems, Applicon and DEC.

THE NEW INMOS TRANSPUTER

The arrival of the T9000 Transputer last week was hailed as the next step in Inmos Ltd's technological evolution, filling the gap between the former T2, 4 and 8 families and the proposed modular 'Chameleon' product line. Inmos Transputers are unique because they combine a processor, communications links and memory on a single chip. The power and complexity of this latest offering makes it the world's fastest single-chip computer, according to its maker. The T9000 has 3.3m transistors. Each of its four communications links can convey the equivalent of 20 gibibytes; and its internal communications crossbar can throughput the equivalent of 200 gibibytes per second. Inmos sees the device as the blueprint for all future chip design. Conventional microprocessors, the company reckons, will reach 'burn out' by about 1996 or 1997. By then, performance enhancement will centre more on multiple capabilities than, say, clock speeds, which likely will have reached a plateau. Multi-purpose chips are likely to be popular with manufacturers, because they offer the advantages of reduced chip count and board space, and faster time to market. Indeed, Inmos has already shipped 1m Transputers and is expecting to double this number over the next year. It will be targeting the T9000 at traditional markets such as office automation, PABX switching systems, industrial robotics high-performance computing and military and space systems, alongside existing Transputer family members. It says it has no plans to phase these former Transputer lines out. The T9000 replaces the T805 as Inmos's high-end offering. It uses Tungsten Plug technology, which helps integrate the various elements in the chip in as small a package as possible. The Pentium, explained Ian Pearson, director of Inmos's Transputer Business Unit, is 30% bigger though it has the same number of transistors.

The device's CPU combines a 32-bit integer processor producing up to eight instructions per cycle and 64-bit floating point unit and has 200 MIPS, 25 MFLOPS performance. The memory system has 16Kb on-chip memory, configurable as cache and/or RAM; 800Mbps, four access-per-cycle workspace cache; and Programmable Memory Interface. The so-called Virtual Channel Processor connects with four four-wire 100Mbps links, with up to 64,000 channels per link and 80M-bytes total link bandwidth. This is all bundled into a 208-pin CLCC package which, in single chip applications will run on 3W; 5W is needed to drive large external memory systems. Inmos says the T9000 is easily scalable with no interface or buffer logic required to link multiple devices. Communication between up to 32 indirectly connected T9000s is possible with Inmos's C014 Packet Routing Switch. There is also a C100 System Protocol Converter that links T9000s to previous generation Transputers and C101 Link Adapter for interfacing with standard buses in a variety of other devices. These will be available during 1993. Software development and programming for multiple T9000s is as easy as for single devices, according to Inmos. ANSI C, C++ and Occam compilers are available for development on personal computers and Sun Microsystems Inc workstations. Hardware development has also been simplified with the availability of a range of Transputer Modules, or TRAMs, high performance modules and motherboards. Fabrication will initially be based in Newport, South Wales but, from 1994, this will be extended to parent SGS Thomson Microelectronics NV's Crolles facility. This will enable Inmos to take advantage of Thomson's 0.5 and 0.35 micron fabrication techniques to produce faster, 3V T9000s. Inevitably the news of the T9000's arrival, approximately a year overdue, was accompanied by a host of announcements from other vendors, anxious to dust off their T9000-based products. Among them were Parsytec Computer GmbH and Parsys Ltd with their T9000-based supercomputers and Ektron Applied Imaging Inc with its Boss-9000 parallel processor. Work on the successors to the T9000 has been under way since 1991 under Inmos's Chameleon programme.

The aim is to produce a new chip architecture comprising a number of interconnectable modules, that can be used individually, or in combination, in single chips. The modules will include 64-bit processors and cache, programmable communications processors, high speed communications interfaces, link routers, floating point co-processors, re-configurable co-processors and dedicated Asynchronous Transfer Mode communication and graphics and video processors. This modular architecture will integrate around 10m transistors and two special interfaces: an interconnect protocol for supporting scalable shared memory access, communication and control; and the so-called virtual binary for supporting sequential, parallel and distributed programming. The virtual binary will support standard operating systems like Unix and Windows NT, and compilers and programming languages like C, C++, Fortran and Occam. Chameleon chips will be aimed at the Transputer's traditional telecommunications markets, along with more mainstream computer markets, multimedia workstations and portables, database and computing servers. Chameleon products are due in 1996.

PARSYS ANNOUNCES SN9000 PARALLEL SERIES

Parsys Ltd has at last been able to follow up the statements of intent it issued over a year ago with the formal announcement of its T9000-based SN9000 series parallel computers. The new range, which is targeted at the traditional scientific and technical parallel computing markets, will comprise five model types, covering a performance range from 800 MIPS to over 400,000 MIPS. All will use Inmos's 32-way C104 switch chip. The machines consist of modules with either 8Mb, 32Mb or full 64-bit memory addressing in size 2 High Performance Transputer Module format; or 16Mb and 64Mb in size 4 format. Peripheral access is via SCSI-II modules. All can be hosted by a personal computer or Sun workstation. Parsys will also provide a single T9000 module with ethernet, SCSI II, RS232 port and minimum 16Mb of RAM. The SN9300, targeted at engineering and educational users comes in two types of enclosure: full VME with T9000 VME master card for supporting flexible addressing over the VME bus; or passive rack, which uses the backplane for power sourcing only. The system uses up to four processors per card, and is expandable to 40 processors. Each card has 128Mb RAM, 100 MFLOPS and 800 MIPS. The SN9400, designed for single users, comprises a series of small enclosures, each with their own power and cooling systems that can be linked together in a stack. Users can choose between a single or multiple processor host, with a maximum of four switched or four unswitched processors per unit. The system is expandable to 16 processors, with a maximum of 512Mb RAM. Each unit of four processors offers 100 MFLOPS and 800 MIPS. The SN9500, also for single users, is a fully switched network of sixteen High Performance Transputer Modules. It is designed to fit under a standard workstation processor unit and to be hosted by it. It has 512Mb RAM and delivers 400 MFLOPS and 3,200 MIPS peak per unit. The higher capacity SN9700, is designed as a network server for up to four simultaneous users. It contains up to four motherboards, each with sixteen fully switched High Performance Transputer Modules. The motherboards are arranged in four clusters that communicate through a single backplane. Further disk and tape systems can be accommodated, along with up to 64 Transputers. It offers 2,048Mb maximum RAM and has 1,600 MFLOPS and 12,800 MIPS. At the top end of the range is the SN9800, for multi-user, networked systems. It is fully switchable, scalable to over 2000 processors and capable of supporting a range of topologies from simple clustered networks to reconfigurable complex networks. SCSI and ethernet devices are closely integrated into the system enabling any processor within the system to be attached to a SCSI or ethernet controller. It offers 8,192Mb RAM per unit, with a system maximum of 65,536Mb. Each unit delivers 6,400 MFLOPS and 51,200 MIPS. The SN9000 systems will initially use the Inmos toolsets for C and Occam, with Fortran available in 1994. The Idris operating system can also be run on as many Transputers as necessary while allowing part of the system to remain as a native T9000 network. The smaller systems will be rolled out first, probably around the third quarter this year. Prices will begin at \$10,000, larger systems follow by year-end.

...AS PARSYTEC DEBUTS XPLOERER

Meanwhile, Aachen-based Parsytec GmbH now has what it claims to be the world's first high performance parallel desktop system, Xplorer, based on the Inmos T9000. It comprises between eight to sixteen transputers, with a choice of between eight to 32Mb memory on each node. Extra input-output interfaces, mass storage subsystems and image processing modules can be added to boost performance, with users offered the choice of Inmos's High Performance Transputer Modules or Parsytec's own Transputer Image Processing modules. Up to four Xplorer systems, totalling 64 processors, also can be connected. Xplorer supports both the Inmos software toolset and Parsytec's Parix system. Parsytec reckons the system offers better performance than traditional high end workstations and is anticipating that it will be used mainly for graphics, design and animation; technical and economic modelling; manufacturing and office automation systems. An eight processor version will cost around £17,000 and a 16 processor machine £27,000. Pre-final spec T9000-based versions will ship in June/July followed by final spec versions in the fourth quarter. Xplorer offers users a migration path to the firm's GigaCube massively parallel supercomputers which are also to use T9000s. The company is uncertain whether it will phase out its current T805-based GigaCubes just yet. Availability will be as for the Xplorer, with prices starting at £34,000 for an eight node machine and ranging up to £4m for a 1,000 processor model. Meantime, to help users assess the T9000, Parsytec is offering interested parties the chance to bench test applications using a special evaluation kit. This includes a module with T9000, 8Mb Dynamic RAM and T805 processor connected to a Sparc workstation. The T9000 memory is laid out as a dual ported memory and is therefore accessible for measurements by the T805. Special software running on the workstation parallelises C-based programs using Parix, ACE compilers and the Inmos C Toolset compiler - it claims a tenfold performance increase over the T805.

By Lynn Stratton.

SYBASE TO DEBUT SYSTEM 10

Ahead of its international user meeting and training conference in San Jose, California, on the 27th of this month, when the majority of System 10 components will be debuted, Sybase Inc this Wednesday unveils the first module in the latest release of its relational database management system products. As reported (UX No 410), OmniSQL Gateway provides location, vendor and stored procedure transparency to applications, and allows for the integration of existing applications within distributed, multi-vendor database environments. Other modules and integrated products will roll-out on the 27th and over the course of the year. At the heart of System 10 will be a new version of the Sybase SQL Server, the core database server which the company has been shipping since 1987, and now out at around some 6,500 sites worldwide. New features will include ANSI SQL89 compatibility, increased control and security features, and consistency checking and backup. Perhaps more interesting are surrounding interoperability features due in the release, which will allow object technologies like a request broker and C++ application programming interfaces to be integrated into the environment. Moreover, Sybase's relationship with object player Tivoli Systems Inc should result in a bunch of distributed, operational control tools coming on stream for System 10 next year, as well as the provision of hooks into the database for Tivoli's forthcoming object products. The Emeryville, California-based company also plans new ease-of-use functionality layers in System 10 - advanced features of the Sybase system have in the past proven difficult to learn and use in comparison to rival database products. Sybase expects System 10 products to kick into its revenue stream immediately - its current business is evenly split between sales to new customers and upgrades at existing sites.

SQL Server for Windows NT

Sybase is currently working on new CASE and repository front-end systems using object-oriented and multi-media technologies derived from its Gain Technology acquisition, which, according to Sybase vice president of marketing, Stewart Schuster, is now focusing Microsoft Corp-based development on Windows NT rather than Windows or MS-DOS. Microsoft has stopped short of bundling the Sybase SQL Server it offers with Windows NT, but the two firms are working on a System 10-derived add-on package, with new tools for the third quarter, that'll scale to personal computers, minicomputers and mainframes. The performance monitor, event logger and control services will be fully integrated within the operating system. It'll be backwards compatible with the Win32 application programming interface and interoperable with Sybase SQL Server 4.2 for OS/2 and offer multiprocessing support plus and SNA server gateway. However, Microsoft is expected to offer a single-user version of SQL Server for NT that'll appear at the same time as the operating system which, according to reports, may cost less than \$1,500, and will be targeted at value-added resellers, integrators and corporate developers. It would provide a low-cost point of entry into the client/server world. Microsoft may have decided not to bundle SQL Server directly in order to maintain good relations with other database suppliers, "but why not do it the other way around?" asks Schuster. There's a version of SQL Server that comes bundled with OS/2, "why not with NT?" Schuster says relational database performance under NT on Intel Corp boxes won't differ much from results under Unix, but doesn't know about RISC. In the short term he sees NT very much as a client system, with take-up by the server community a couple of years out. He's more sceptical of NT's role at the high-end. Unix has managed to win space in mission critical, distributed application areas by offering its inherent diversification, customisable features and scope for optimisation as distinctive advantages for developers. Despite these kinds of market issues, Microsoft is unlikely to allow developers to add-value for them by tinkering with NT operating system code "but it may have to change this model to win the high-end," warns Schuster.

INTERGRAPH'S LATEST CLIPPERS

Intergraph Corp has released new InterPro Series 2700 and 6700 workstations based upon its C400 Clipper RISC chip which run Unix but can also be configured for Microsoft Corp Windows NT. A 2700 desktop with 32Mb RAM, 426Mb disk and 19" screen costs £15,000 - with 1Gb disk and two 19" monitors, the price rises to £21,000. 21" and 27" screens are also available. The 6700 desk-side, with more expansion features, is priced at from £18,000 to £53,100 configured with twin 27" monitors and Edge 2+ graphics.

COMMON OPEN SOFTWARE ENVIRONMENT

Tough talk? Officially, Microsoft Corp is greeting all this COSE business with a shrug of the shoulders. According to an unimpressed NT product manager, Richard Greenberg, COSE will have no impact whatsoever on anything Microsoft is doing. Apparently Microsoft was concerned that the Unix camp might rally round the kernel which it says would have been a "much more powerful statement...a substantive agreement." However, the way it reads COSE the Unix people are "not saying they are going to unify" and dismisses it as "just a bunch of hype." Microsoft also maintains that it is focusing on interoperability and if something concrete eventually does come out of COSE, well, that consolidation will just make it easier for Microsoft to interoperate with Unix. Besides which, Greenberg claims, anything COSE delivers "is not going to make Microsoft less attractive." Greenberg also warns the Unix contingent not to try to hoist NT on same petard Microsoft is using against Unix. NT will not be fractured into a bunch of different versions simply because it's run on different MPUs. The company is moving literally to a single-code structure for Intel, Alpha and Mips and licensees are restricted from changing the code.

Since COSE doesn't want to be referred to as a consortium, group, organisation or initiative, maybe we should start calling it "La Cozy Nostra."

Apparently the International Multimedia Association (IMA), a party to COSE, is having discussions with Intel about how to handle Intel's own multimedia standard. Perhaps it too will become part of the COSE spec.

Unix System Labs still harbours the belief that COSE will eventually result in agreement on the kernel, namely SVR4 or its descendent.

The COSE specification will include IBM Corp's Common User Access '93 interface standard, which isn't out yet.

Other things that could be addressed by COSE include a data interchange format - product naming conventions would be useful too, some say.

ENTROPIC SPEECH RECOGNITION TOOLS

Washington, District of Columbia-based Entropic Research Laboratory says it has HTK, the Hidden Markov Model (HMM) Toolkit, providing the software tools needed to build HMM pattern classification and continuous speech recognition systems. The company claims the product, originally developed by the Cambridge University Engineering Department Speech Group and available through an exclusive alliance with Cambridge University Technology Transfer Company, marks the first time these capabilities have been available in a single commercial product. Users reportedly do not need to write computer programs. It currently runs on Sun, HP, DEC and SGI boxes. +1 202 547-1420

WALKER SEES UNIX AND MAINFRAME FUTURE

The rest of the world may be doom-mongering about the mainframe and its impending extinction, but not Walker International, the Aylesbury-based subsidiary of San Francisco-based IBM mainframe accounting software company Walker Interactive Systems Inc. Walker International saw its turnover rise 40% to £7.4m during 1992 and its pre-tax profits double to £2.6m. Confidence is such that Walker is looking to expand its operations from the US, Canada and UK to the South East and Western Europe - with announcements to this effect expected in the summer. Like most, however, it sees the potential of the open systems market and will offer RS/6000 with Oracle and HP 9000 with Sybase versions of its mainframe software by the end of this year, with Informix and Windows NT versions to follow in 1994.

ARTISOFT OFFERS UNIX SUPPORT

Low-end network operating system developer Artisoft Inc has announced a new kit enabling its LANtastic local area peer-to-peer operating system to interconnect with other operating environments, as well as providing a Network Driver Interface to the LANtastic NetBIOS. The Tucson, Arizona company claims that Network Driver Interface Support for LANtastic Kit will enable users to load or stack multiple protocols, providing support for transparent access across systems, including Unix (via Network File System), NetWare (using a separate IPX NDIS driver), and the IBM Corp mainframe. The company claims that these protocols can be loaded and accessed simultaneously without interrupting the LANtastic network connection. Available from the end of last month, the kit will have a list price of £150, the company says.

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At the Uniforum show in San Francisco two weeks ago, the US franchise of Unigram.X, G2 Computer Intelligence Inc, produced a one-off "beta version" of a newsletter dedicated to the Microsoft Corp NT operating system. Lightly titled "BillyGram" in deference to Microsoft's founder, the newsletter's purpose was to gauge Unix industry response to strategic information about Microsoft, NT and other phenomena in anticipation of NT's official launch next month. Unigram readers are therefore invited to contact our offices for more information about a weekly NT newsletter +44 (0)71 867 9880.

Apparently **Bristol Technology Inc's** Xprinter software library, its common graphics programming interface for both X Windows displays and Postscript and PCL laser printers, is going to turn up in Unix SVR4.2 soon.

Hitachi Ltd has put a tiger team from its **Network Products Group** in Silicon Valley on developing LAN-based multiplatform e-mail products hoping to have them all gussied up in time for a third-quarter rollout. Hitachi figures it's on to a good thing: IDC predicts the worldwide market will be 77 million users in 1996. Hitachi is expected to make a point of integration, management and directory synchronisation. It'll probably be based on the Simple Mail Transfer Protocol.

London firm, **Personal Workstations Ltd**, says it will continue to distribute the **XVT Inc** interface software in the UK (UX No 429).

New York-based **Linkon Corporation** will be developing an SBus multimedia comms card called **Link Engine FS3000** for **SunSoft Inc's** Solaris operating system to give desktops interactive voice response with speech recognition and fax capabilities. The first SBus solution supporting distributed voice processing applications, it will be generally available by June following a May beta. There will be one-to-four port configurations for the desktop and T-1 configuration for large client/server installations. Europe will be supported by an E-1 interface.

Hewlett-Packard Co and Colorado-based **Ellery Systems Inc** are collaborating on a development environment for OSF's Distributed Computing Environment. The first fruits of their labours is the **Earth Data System**, a solution for collecting and analysing critical geographically distributed environmental-impact data put together with NASA and several universities. Its communications interface to DCE was reportedly created in three weeks using Ellery's Open System software, a development and run-time environment that requires no remote procedure call programming or source code modification.

Scott McNealy on **IBM Corp's** new chief executive officer **Louis Gerstner**: "Who cares who's captain after the wings have fallen off."

Supposedly the first legal **Apple Computer Inc** Mac-compatible from the tiny **NuTek USA Corporation** uses **Motif** instead of the Mac interface to sidestep legal hassles. **NuTek** reportedly developed its own Mac-compatible ROM in a clean room using public documents. The company is offering a \$900 logic board and a \$3,000 box called **Duet**, a hybrid 68030/480DX Mac/PC compatible. It is to run Unix besides Windows, DOS and OS/2. +1 408 973-8799

Uh-oh. We called **Aries Research Inc**, makers of what looks to be the first HyperSparc-based systems (UX No 426) **Marixx.ds** and **Marixx.dt**, **Aries Technology**. More understandably, perhaps, was our spelling the new software start-up **Kapre Software Inc** **Capri**. It never told us it went to school with **Dan Quayle**.

A sceptic has pointed out that "the use of one graphical user interface rather than another has never added one point to an organisation's earnings per share ratio." The same source, it must be said, also believes that "the API wars will replace the GUI wars."

Unix System Laboratories Pacific Ltd has begun marketing of **Veritas Inc** software in the Asia Pacific region: the **Veritas** products include the **Veritas** volume manager, **Veritas File System**, **Veritas Visual Administrator** and the **Veritas Journaling File System**; technical support will be provided by **Unix Labs**.

Toshiba Corp has formed a long-term multimedia technology partnership with the **SunSoft Inc**: the first step will be the development of a text-to-speech capability for workstations.

Unisys Corp now has Posix 2 compliance for its CTOS operating system, based on the **Mortice Kern Systems Inc** **InterOpen/Posix Shell** and **Utilities** product; it's priced between \$663 and \$10,425, depending on server size.

Microsoft Corp is spraying statistics in all directions to try and convince the industry of NT's success: 60,000 software development kits have been sent out, it says, 25,000 dealers and the like should be trained before the launch, and it has commitments from developers that over 500 applications will be ready by the autumn - however it absolutely refuses to comment on how many copies it expects to sell.

Sun Microsystems Inc CEO **Scott McNealy** arrived at the **SunSoft Developers' Conference** last week all spiffed up in a dinner jacket, wing collar, jeans and sneakers. **SunSoft Inc** president **Ed Zander**, a man with a tailor to kill for and the wardrobe to prove it, was quick to notice that **McNealy** was wearing a shirt with his initials on the cuff for the first time in his life. **McNealy** shot back that the "SM" stood for "Stop Microsoft."

Corollary Inc intends porting Solaris x86 to its Extended C-bus and C-bus II multiprocessor architectures by the end of this year.

Party manners. **Hewlett-Packard Co** hosted all the COSE meetings and picked up the pizza tab. **Sun Microsystems Inc** then threw a celebratory dinner for the COSE teams on March 16, the night before the announcement. Now it's **IBM's** turn.

Unisys Corp has signed up to use **Univel Inc's** **UnixWare** as the operating system on those Intel-based Unix-run U 6000 workstations and entry-level servers it's expected to introduce later this spring (UX No 420). The agreement is said to mark the beginning of a close strategic alliance between the two companies.

Apparently the **Internet** could run out of available addresses by 1995 and the **Internet Engineering Task Force** is now looking at ways of overcoming address limitations in the current IP version 4 standard. Three proposals have been submitted. **SIP**, Simple Internet Protocol is compatible with different technologies on different computers and backwards compatible with existing IP technology. **PIP**, P Internet Protocol is a new address structure which would supplant the current IP structure. And **TUBA**, TCP and UDP over Big Addresses, is a means to combine TCP/IP and ISO standards to accommodate larger OSI-based addresses that will support both TCP/IP and ISO-based applications.

Electronic News says **Intel Corp's** deal with **Digital Equipment Corp** to resell its i860-based massively parallel processors and follow-on **Paragon** machines has died, apparently out of lack of interest. **DEC's** MPP activities have been moved from corporate research to its mainstream computer operations and clustering, as in its recent deal with **Encore**, is the current watchword. **Intel** is reportedly looking for replacements.

Unix System Labs and the **Santa Cruz Operation** have both licensed **Sun Microsystems Inc's** **ONC+**. It will become part of **UnixWare** as part of the commitment to **COSE**.

Steve Jobs last week denied to *Unigram* reports printed in a European trade magazine that **Novell Inc** was planning a takeover of **NeXT Computer Inc**, intending to use **NeXTstep** as the object-oriented front-end to a new version of **NetWare**. **Andrew Seybold**, a respected US analyst, recently wrote an open letter to **Jobs** and **Novell CEO Ray Noorda** suggesting such an alliance.

Hitachi Ltd's open systems division is rumoured to be working on a deal with **Sun Microsystems Inc** to use **Sparc RISC** boards running **Solaris** that'll be used as a front-end, handing off network data to its **OSF/1**-based mainframes. Presumably **Hitachi** is a member of **Sparc International** too. The firm is supposed to be doing a **RISC-based** **Unix** mainframe and is already a licensee of **HP's** **PA** chip which it uses in its 3050 line of **Unix** workstations.

Could that 8-way **SunBox** we're looking for (UX No 429), have been code named **Scorpion**?

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MICROSOFT "TO CHALLENGE SUN'S WINDOWS-ON-UNIX"

Sources believe Microsoft Corp may be preparing to take Sun Microsystems Inc to court over WABI, the Windows-on-Solaris software that SunSoft Inc is expected to bundle with x86, the new Solaris-on-Intel operating system. It is said the Sun planet SunSelect, the unit that bought WABI when it acquired Norwood, Massachusetts-based Praxsys Technologies Inc, has already received a letter from Microsoft complaining that WABI violates its intellectual property rights. Microsoft chairman Bill Gates has already made similar complaints in public to the US press (UX No 427). Microsoft wants Sun to pay a licence for WABI, specifically \$50 a copy, and has been saying so to Sun since at least December. At a meeting in January at Microsoft headquarters in Redmond, Washington with Sun vice presidents Eric Schmidt and Carl Ledbetter, Microsoft executive Paul Maritz told them they face a business decision. "You'll have to compare the cost of staying current with us and defending litigation against the cost of paying us royalties." Maritz also promised to make Windows such a moving target Sun could not keep up. WABI is expected to be announced as a product on May 5. At the introduction, Unix System Labs will likely be trotted out as a key WABI partner, a direct conduit to Univel Inc, its joint venture with Novell Inc, as well as an implicit conduit to COSE (UX No 428).

Sun and USL may try flanking manoeuvre

It is believed Sun and USL, which reportedly realise the potential hiccups with WABI, may try an advanced game of one-upmanship with Microsoft, putting AT&T's patent portfolio containing such things as Backing Store in the balance up against Windows. SunSelect has repeatedly maintained that Microsoft doesn't have a legal leg to stand on and that it will not pay the licence. It has said WABI was created in a clean room, an argument sources say implies there was a "dirty room" somewhere. Sun's other weak point may be the fact that WABI's Praxsys creators come from BIOS house Phoenix Technologies Ltd where they would have had access to MS-DOS. At that same January meeting, Maritz tried to sell Sun on the notion of porting Windows NT to its Sparc RISC. He told Schmidt and Ledbetter that Sun, ICL Plc and Fujitsu Ltd ought to do it "defensively for the insurance." Microsoft wanted between \$250,000 and \$500,000 for the source code and a royalty of \$100 to \$200 a copy in royalties, enhancements included. Meanwhile, Hunter Systems Inc, Palo Alto, California, a company with technology very similar to WABI, has hit the wall. On Monday April 12 its collateral and debts of at least \$2.5m will be sold at public auction.

NEC ENTERS PARALLEL MARKET WITH MIPS RISC BOX

NEC Corp has entered the parallel processor business with the launch in Japan of the Cenju-3, built from eight to 256 MIPS Technologies Inc VR4400 RISC microprocessors. The machine, which comes in seven standard configurations, was originally developed for in-house scientific research. The company claims peak performance of 12.8 GFLOPS, and says the machine offers a three-fold price-performance improvement over its flagship SX-3R Series supercomputers. The 64-bit VR4400 used is clocked at 75MHz and each node has 1Mb secondary cache and is rated at 50 MFLOPS. The machine implements a parallel distributed shared memory architecture and each node is connected to several others via a multi-stage interconnection network. It is front-ended by a NEC EWS 4800 R-series RISC workstation running UX/V, the Japanese language version of Unix System V.4. The firm has parallelising compilers for Fortran and C. The Cenju-3 is offered at a monthly rental of \$11,130 for the eight processor model, \$271,360 for top-of-the-line 256-CPU model. First ships in Japan are set for late December, with the machine being launched on the international market in June 1994. NEC hopes to ship 30 of the things over three years, and research institutes are the target market.

LEADING COSE ROLE FOR X/OPEN

COSE's systems management technology will be determined by X/Open's existing systems management workgroup, a committee that will include all the current COSE companies. The decision was made last week at a planning process review the COSE people and the Open Software Foundation held April 7 at X/Open offices in Menlo Park, California, one of many meetings that have been taking place lately. However, the meeting also established the desktop as COSE's first priority, something that seemed clear at COSE's announcement last month. Much of the meeting was apparently given over to the specific role X/Open will play. X/Open in turn explained the inner working of its fast track process: a specification that's very clean and well written takes at least six months, changes after review tack on another 10 weeks. A normal X/Open process takes 12-18 months. Motif is prime for the fast track though it will require minor work integrating it into XPG. X/Open will reported to do the XPG integration work on all COSE specifications. An X/Open spokesman said COSE now better understands the task, resources and overall timeframe. COSE continues to resist any designation as a group or collective appellation as the COSE companies reportedly because it expects to expand. More details page five.

**HITACHI MAINFRAME OSF/1
AT LAST - SPARC FRONT END**

Hitachi Data Systems Ltd took its first step into the Unix world last week and launched the OSF/1 operating system for its GX and EX series IBMulators. To be an efficient Unix server, the mainframe needs a network co-processor front-end, and despite its agreements with Hewlett-Packard Co on the Precision Architecture RISC, Hitachi has chosen to use a Sun Microsystems Inc Sparc-based machine in this role, fitted with suitable direct channel-attach and Ethernet boards. This, when combined with the OSF/1 operating system implementation dubbed HI-OSF/1-M, will be sold as the Osiris Superserver. HI-OSF/1-M will run stand-alone, under VM or in a partition alongside MVS on the Hitachi machines. The company says that it will not initially be aiming at the unfamiliar Unix community, instead it has set its sights on its existing customers, and IBM mainframe sites, which are increasingly feeling the push towards Unix. The company will add Network Data Management Server software in around six months - this will provide network back-up, management and recovery, and will be followed, during the first half of next year, by a database server based on Oracle Corp technology. Finally the company is promising transaction processing software at a future, unspecified date. The Sparc-based Network Co-Processor costs between \$160,000 and \$180,000. HI-OSF/1-M pricing is based on IBM's licence group methodology and costs between \$2,800 and \$25,000.

ICL SETS AN EXAMPLE FOR OTHERS TO FOLLOW IN THE ERA OF OPEN SYSTEMS

Unlike most of its competitors, ICL Plc has managed to stay in the black for the year ending December 31 despite having experienced a "character-forming year for the computer industry worldwide" and being forced to make major price cuts on its products. According to director of finance and business strategy Keith Todd, average margins dropped 6% to 35%, which represents a reduction in gross margins of £109m. Although he expects margins to keep on falling during the coming year, he does believe the rate of decline will slow. ICL saw pre-tax profits down 38.1% to \$38.6m, while turnover increased 32.1% to £2,477.9m. These figures include full contributions from Nokia Data and Sorbus as well as £181m from acquisitions made in 1992, such as Technology Plc. Operating costs also fell to 23% from 25% of turnover due to "effective working capital management", or careful attention to inventory levels and debtor activity. Although the company ended the year with net debt of £94m and gearing of 35%, it did generate £240m cash from operations. This was used to buy capital equipment, to finance the integration of new acquisitions and to reduce debt levels. Chairman and chief executive, Peter Bonfield, expects ICL to stay in the black during the coming year, but concedes that short-term profits may well be hit as the group invests in trying to grow market share, enter new business sectors, and undertake further restructuring to reduce its cost base.

No profit from mid-range Unix

For the first time, ICL generated some £1,000m of its revenues in Europe - and more than 50% of its business was done outside the UK - partially as a result of its Nokia Data Systems acquisition. Todd said the company is now number one and number two in the Finnish and Scandinavian markets respectively. ICL also now generates about half its revenues from higher margin non-hardware sales, and expects this to increase to between 55% and 60% over the next few years. While turnover from services increased by 36%, the fastest growing area was managed services, such as facilities management. As for open systems, Bonfield claims 85% of all the group's products now come in this category, and the company is now seeking X/Open XPG4 accreditation for its mainframes. Bonfield doesn't like the term mainframe any more - "mainframes are unpopular now", he said, "we call them big servers" for the open systems market. Revenues generated from all Unix sales grew about 28% - the same as last year - and although unit sales of mid-range products increased 76%, the company did not make a profit on mid-range Unix products because of increased R&D spending in that area, Bonfield said.

SUN OFFERS ONE-STOP SUNSPECTRUM SUPPORT SERVICES FOR HARDWARE, SOFTWARE

Sun Microsystems Inc has put together a worldwide service and support programme covering hardware, software, network applications and interoperability called SunSpectrum. Currently, Sun customers pay service and support charges for each hardware configuration and an additional fee for each peripheral device. SunSpectrum will support entire systems, including the monitor, all disk drives, Sbus cards, memory and other related hardware as well as the Solaris operating system and other Sun software. It includes licences for on-line and CD-ROM versions of the SunSolve problem and support database. The one-stop support shop will offer Platinum, Gold, Silver and Bronze levels of service on a worldwide basis from May 1st. Platinum support covers mission critical systems, guarantees 99% server uptime, on-site technical reviews, coaching, training as well as extended traditional support. It replaces the Sun-Service 2000 scheme introduced last November (UX No 410). Gold service will offer personal technical account support, on-site and phone support and extended coverage hours. Silver service buys basic on-site and telephone support, whilst the bronze programme includes once a week on-site visits with telephone support for Solaris and other Sun software.

SUN'S NEW TECHNOLOGY BUSINESS WILL OFFER EARLY ACCESS

Sun Microsystems Inc last week officially launched its Sparc Technology Business (STB) unit to peddle licences to Sun's own silicon and system designs (UX No 429). The new profit and loss centre is aimed at driving Sun into areas it hasn't been before like the embedded arena and seeking customers who would create a swot of derivative products. The unit, whose vice president of technology sales is Chet Silvestri, a recent emigre from Mips Technologies Inc, is setting up an infrastructure that will eventually be able to offer customers early access to Sun's future microprocessor technology: the specifications, chip development and first tape-outs. Immediately, however, early access is not an issue since the only silicon products STB has in its price book are existing products: the MicroSparc chip and something called the Sparc 811, the Sparcstation 2 integer unit. If a customer wants to build a Sparc derivative for internal use, it will cost \$1,000,000 up-front and a royalty fee of \$5-\$10 depending on the application. If instead it wants to sell a standard part on the open market, it will be \$1.75m up-front plus 10% of the chips' average selling price. If, on the other hand, the customer wants rights to both the standard Sun chip and a derivative to sell on the open market, the price tag is \$2.5m up-front and 10%. For the money, and knowing Sun these list prices will be negotiable, the customer gets the core design database and the key development tools Sun uses internally.

Leg-up

Sparc 811 has no customers yet but both Xerox PARC and SMILE, the Sparc Macrocell and Interface Library Elements project inside Europe's Esprit III programme have taken licences to create Tsunami derivatives. SMILE intends developing a family of Sparc-based library cells as the basis for a next-generation family of embedded microcontrollers aimed meant to give subscribers such as Philips Semiconductor of Philips Electronics NV and the French firm Matra MHS a leg up. STB will also sell Sun system designs hoping to expand indirectly into the portable, X terminal and embedded markets. For \$375,000 up-front plus a \$75 royalty on every system, it will sell the motherboard plans to the Tsunami-based LX and its Classic subset and for \$500,000 up-front plus \$200 per unit, it will sell the plans to the high-end Viking-based Sparcstation 10. Embedded house Force Computers Inc, Campbell, California, which previously worked with the Sparcstation 1 and 2, has signed for the 10. Solaris 1.1 and 2.1 will be ported to be embedded architecture along with real-time operating systems. Themis Computer Systems Inc, on the other hand, is using the Classic to create the SparcLXE with VMEbus for embedded applications, priced at \$4,000 in 100 lot with 8Mb DRAM. It runs both Solaris 1.1 and 2.1 and is expected to be the first of a family of products. STB is also responsible for operating system-independent platforms so third parties can sell Sun hardware with Novell Inc, real-time or perhaps competing software like Microsoft Corp Windows NT. STB anticipates moving both the hardware and software through distributors and master resellers who will integrate them before moving them on to resellers. Six-months worth of engineering support (50 hours on the phone) and training is bundled with the products. For those requiring more there is an additional 12-month contract available for \$150,000 to silicon customers and \$75,000 to systems customers. Design services will also be performed on a time and materials basis by STB engineering consultants. STB currently houses 30-40 people. It should expand to 50-60 by the end of the year. Sun and qualified resellers

IBM SHIPS FIRST PARALLEL SP1

IBM Corp has shipped its first Rios RISC-based SP1 parallel processor, and the machine has gone to Cornell University, New York State, which has a \$12.3m grant from the New York State Urban Development Corp for high-performance computing research. Cornell will use part of the funding to buy the \$3m 64-processor machine, which is to be expanded to 512 CPUs when that configuration becomes available next year. IBM reckons the planned 512-CPU model will do over 100 GFLOPS. IBM and Cornell have teamed up to develop scientific and technical applications for the SP1 in fields such as fluid dynamics, plasma physics, ground water and air pollution analysis, drug design, ozone mapping and seismic analysis.

DATAMAN OFFERS SPARC COMPATIBLE WORKSTATIONS AT HALF SUN LIST PRICE

Sparc compatible builder, Dataman Computervertriebsges GmbH, Stuttgart, has introduced SuperSparc and microSparc systems, the Solair 10/30 and Solair Classic. A clone of Sun Microsystems Inc's Sparcstation 10 model 41 will be released in May. The 36MHz Solair 10/30 comes with a 20" colour monitor, 32Mb RAM, 520Mb disk, floppy drive, four Sbus slots and two Mbus slots. It runs Sun-Soft Inc Solaris 1.1 and Solaris 2.1 will be available from May. Priced at £8,700, the company claims it is an incredible half the cost of an equivalent Sun box which retails at £16,300. The 50MHz Solair microSparc-based Classic is configured with 16Mb RAM, 520 disk and comes with three Sbus slots. It runs both Solaris 1.1 and Solaris 2.1 operating systems and comes with 15", 17" or 20" colour monitors. The Solair Classic costs £1,800, according to Dataman's Corinna Fechner - again, almost half the price of the Sun Classic, which is £3,650. The Solair 10 model 41 will ship in May and is configured as the Sun box, the firm says. Clones of Sun's 45MHz models 52 and 54 boxes and 50MHz models 62 and 64 will be introduced as and when Sun ships. The systems are assembled by Dataman in Germany. The firm says it is able to offer Sun compatible boxes at such low prices because it buys components as a group and sells through catalogues in Germany, Netherlands, UK, Austria, Switzerland and France. In the UK, Dataman claims to have sold 15 Solair 10/30 and Classic boxes and expects to sell 100 by the end of the year - 2,000 across Europe. Dataman UK: +44 423 358262. Germany +49 711 773131

ONSITE OFFERS UNIX SVR4.2 IN GERMANY

Unix software developer Onsite Computer International GmbH, Munich, Germany, has introduced Onsite SVR4.2, an implementation of Unix Systems Laboratories SVR4.2 Destiny desktop operating system for iAPX-86 architectures. Onsite enhancements to the desktop operating system include a graphics application set, which incorporates an X-Window application builder; widget libraries; and a windowing korn shell which allows users to develop applications with the look and feel of a Windows-based system. Other features include the Moolit toolkit, extensions for the OSF/Motif graphical user interface and an ASCII shell without cryptic editor. Onsite will provide localised versions of Onsite SVR4.2 in German, English and French. According to the firm, the operating system runs Santa Cruz Operation Inc applications and Oracle and Ingres databases. A two-user desktop system is priced at \$400 and a multiuser system costs \$900. Onsite will sell the product through its existing direct and reseller sales channels in Germany, Austria, Switzerland and France. The firm claims its sold 390 licences since March and has another 250 in test sites. +49 81 668905

DATAPRO COMPUTERS BUYS ABS, SHORTLANDS FROM TRAFALGAR

ABS Computers Ltd, formerly the Allied Business Systems small business computer manufacturer, has long looked a vestigial part of the Trafalgar House Plc empire, too small to turn up in the annual report, and giving the impression that top management was unaware of its existence. If that was the case, the Hove, Sussex-based company has now come to the boardroom's attention, and it, together with sister software company Shortlands Computing Services Ltd, has been sold to Datapro Computers Ltd of nearby Horsham. Datapro, whose name threatens endless confusion with the US market research company of the same name, was very active on the acquisition front three years ago, since when things have been relatively quiet. The terms of the deal values the two companies at £5m, and they will operate as subsidiaries from their present locations. Datapro specialises in the networked MS-DOS and Macintosh markets, while ABS and Shortlands serve the mid-range Unix market with products such as the Pharaoh asset management system, PCMS patient care management system and Shortlands Financials suite. The companies also bring with them maintenance and support billings worth some £3m a year.

FUTURE OF 88OPEN IN ANY FORM DEPENDS UPON LEVEL OF INTEREST

Motorola Inc has put its two cents in the unfolding downsizing saga over at 88open (UX No 430). According to 88open chairman Chuck Corley, Motorola's man, the consortium's budget is being "adjusted" because the test suites that are its raison d'être are done and members' have no requirements for more - despite talk of Unix SVR4 ES/MP. Corley says a "base level of services may continue for a long time" although 88open's staff has shrunk to four persons, five if you count European director Steve Heath, who is reportedly employed directly by Motorola. Corley says the 88open board is now amenable to an 88open spinoff such as president Tom Mace has been contemplating to salvage the consortium's prized testing techniques (UX No 429) - provided 88open's name is not connected with it. Should the spinout be attempted (and the new PowerOpen is a likely next customer), some of the 19 people eliminated from 88open could be rehired. Corley says the powers that be are assessing the situation to see how many would still be needed. Others might continue with 88open itself, their continued employment being dependent on the level of support 88open members will actually continue to need. Members have to make that determination themselves based on their strategic planning, an estimate 88open has been hard pressed to get from them even by the beginning of its new fiscal year. Certainly however "an incremental menu of services" will be provided to principal members as committed to its the 1994 fiscal funding. The organisation's long-term viability, Corley allowed, depends on the continuing level of interest.

DOWNSIZING "IS ACCELERATING," SAYS IDC

Over the next two years, six out of 10 mainframe users in Western Europe will cease to use such machines as their main computing environment. And those that do intend to hold onto them will be centred mainly in the traditionally more conservative financial community, and geographically, in Germany. According to market researchers International Data Corp, a survey of 500 major corporate users showed that although 39% will continue to use their mainframes in the same way as they always have, a massive 61% want to downsize. IDC's definition of downsizing includes those firms either implementing new applications on smaller systems or completely replacing their original mainframes. Of those users intending to run new applications on alternative machines, about 26% will implement them on Unix systems, and 16% on proprietary machines. This trend will be most prevalent among larger companies that find downsizing takes a long time due to the complexity of their computing environment. Such users will tend to put their mainframes "on hold" rather than totally replace them, preferring to spend cash on smaller systems than increase their mainframe capacity. Conversely, some 15% of users intend to completely replace their mainframes with Unix boxes, and 4% with proprietary systems. Per Andersen of IDC's European Unix Centre says this trend will shape the industry over the next two years.

Unix "the only real alternative"

But, he added, he doesn't expect it to happen overnight. And he reckons it will be a more common occurrence among medium-sized companies with under 1,000 employees and only one or two mainframes than larger organisations, because downsizing is less difficult for them. So, IDC's findings indicate that Unix is the most popular alternative to the mainframe, while personal computers linked by local area networks are next in line. Andersen reckons this is because companies are using desktop systems more and more. As a result, he said, corporate structure is becoming increasingly decentralised, which is forcing people down the downsizing path. And, he believes that Unix provides the most powerful alternative to the mainframe - the "only real alternative". While he said the AS/400 may well be taken up at existing IBM Corp sites and by medium-sized firms, he feels larger organisations will be less eager in Europe than in the US. US companies, he said, generally use the AS/400 as a departmental machine, while in Europe it is more often employed as a central server in medium-sized firms. So, all in all, Andersen believes that downsizing is no longer simply a buzzword, but a concept that users are taking more and more seriously. He reckons that "the technology of the future will be based on the microprocessors, which started the personal computer revolution. More powerful systems will be built as multiprocessing systems, massively parallel systems, and clusters. This is a basic change in the principles of how systems are built". Therefore, his ultimate conclusion is: "Traditional mainframes are not dead, but they will become a dead end". And what most of the analysis misses is that reports such as this will accelerate the process, persuading those that don't want to downsize that they will soon have little alternative as vendors put mainframe lines onto care and maintenance.

SAG VERSUS DRDA: THE BATTLE FOR DATABASE INTEROPERABILITY

by Alison Hawkings

The rise of complex, enterprise-wide client/server computing strategies has inevitably led to demands for a single mechanism that will allow users to access information which resides on databases that may be distributed across a range of hardware platforms. Two rival mechanisms, IBM Corp's Distributed Relational Architecture and the SQL Access Group's (SAG) SQL specifications, have locked horns in an attempt to resolve the issue and win over the database industry to their respective solutions.

The problem of accessing information on databases architectures developed and marketed different suppliers - or, more simply, interoperability - has arisen because there is no standard topology upon which databases are built. IBM has its own proprietary relational and hierarchical databases. Unix vendors like Oracle Corp, Informix Inc, Ingres and Sybase Inc offer more open relational database architectures. The ubiquity of Unix means they run on a wide range of platforms, but there is still only a minimal amount of interoperability between them.

Common

The most common method of both accessing information in relational databases is SQL (Standard Query Language). IBM developed SQL, a non-procedural data definition language, twenty years ago. It was adopted by the American National Standards Institute (ANSI) becoming a simple data access method for all databases - a common language which provides users with the ability to interrogate relational databases from a variety of vendors. However, the ANSI SQL standard is limited. Most vendors adhere to parts of the ANSI standard but their implementations aren't identical. Each database developer tailors its own SQL products to increase the functionality it is able to offer, and therefore gain a competitive edge over rival suppliers. For example, there are different types of triggers that edit data, perform calculations and enforce security in all databases. These semantic differences have established similar, but distinct SQL dialects.

Gateways

To try and solve some of these problems, database developers - plus third party independent software vendors - have produced gateway products. A gateway acts as an interpreter, translating SQL dialects from one database environment to another. These are normally limited to relational databases. Some independent software vendors have gone further. Metaphor Computer Systems Inc, Red Brick Systems Inc, Information Builders Inc and Seachange Ltd have added relational and non-relational database access to the gateway. Information Builders' EDA/SQL product enables both IBM SQL-based databases and IBM hierarchical databases to exchange information. These solutions have been successful in providing users with the ability to fire off queries to multiple databases. For users, they are still expensive add-on features and come with their own set of integration problems. For this reason, the database community is looking for a standard means that'll allow users to access and exchange data across different database schemas. The problem is that different vendors are proposing a variety of opposing solutions.

Contender

One contender is the SQL Access Group, which was set up by database vendors to standardise on one SQL dialect. Members include Sybase, Oracle, Borland International, Cincom Systems Inc and Informix Software. SAG bases its dialect on ANSI's RDA (remote data access) specification, which defines the formats and protocols which enable different databases and related tools to interoperate. So far, SAG has begun development on definition access control and authentication; networking extensions; code types for SQL data types and definitions for SQL objects, which include things like database schemas and tables. One achievement has been the establishment of a Call Level Interface (CLI) mechanism, on which Microsoft Corp and Borland International have based their respective ODBS (Open Database Connectivity) and IDAPI application programming interfaces. Although SAG has taken the technical issues of SQL interoperability a stage further, the organisation hasn't had much success in getting the specifications out of the copy book and into vendors' products. According to UK database analyst Martin Butler, disagreement amongst SAG members over common development goals and the establishment of labyrinth committee structure has laden the organisation with bureaucracy. He says "SAG efforts are frozen, it can't decide which way to go and doesn't look like it'll ever get its act together." Database watchers believe SAG's time is running out and its continued existence depends upon its ability to deliver specifications this summer. If, as some database vendors believe, SAG doesn't fulfill its promises then suppliers are likely to turn IBM's alternative DRDA solution.

IBM introduced DRDA in 1990 to provide data access and information exchange between its own databases including DB/2, OS/2, OS/400, SQL/DS and DB2/6000. It says it will extend the mechanism to support other database platforms in future. DRDA is based on the DB/2 SQL dialect. It supports each database as a client, translating other SQL dialects into DB/2 SQL. In effect, DRDA neutralises different SQL dialects and enables each client to access data from other IBM databases. DRDA also makes information access, data modification and application development more manageable, the company claims. For example, tables located in multiple DB/2 databases on different platforms can be modified through update, delete or insert SQL statements, without issuing multiple requests to each remote system. DRDA also supports two-phase commit to ensure data integrity. The database where the request originates is responsible for co-ordinating the transaction among its different participants. It checks calls and recovers them in case of a failure and passes the information back to the initiating program. DRDA also includes Unix support via IBM's recently introduced AIX relational database, DB2/600 (UX No 428), for the RS/6000. DB2/6000 is claimed to offer all the functions of an autonomous relational server, supporting AIX, OS/2, MS-DOS and Windows systems as clients, and provides the missing Unix link in the DRDA equation. The database can also be integrated with Information Warehouse, the CICS/6000 transaction processing monitor and supports X/Open's XA transaction processing application programming interface. DB2/6000 operates as a DRDA client - remote units of work can be issued against any DRDA database which includes similar support. DRDA integrates with IBM's connection service, DDCS/6000, software that provides RS/6000 applications with access to enterprise-wide systems.

Despite its proprietary stigma DRDA is winning acolytes in the Unix database community. More than 20 suppliers, including Sybase, Oracle, Informix, Cincom have licenced DRDA. Informix is the first with a DRDA product, it introduced Informix-Gateway for DRDA last month (UX No 428). The gateway is Unix-based and provides links to IBM databases. Oracle will launch a DRDA SQL-to-Oracle SQL dialect converter - SQL/Connect - later this year and Sybase will provide DRDA support via its SQL Server System 10 (UX No 430). These suppliers - all SQL Access Group members - say that IBM's point blank refusal to join SAG will ensure DRDA becomes a de facto standard. SAG, as yet, has failed to deliver its interoperability solution, whilst IBM promises to support third party databases on non-IBM platforms.

Which is best?

According to Butler, SAG specifications are technically much better because SAG's SQL uses a common subset of the language. The client controls the translation of the request and can directly query data from the server. This cuts down processing and response time of calls. However, in a DRDA environment, client requests have to be translated at the server, which increases system overhead and makes database access less flexible. DRDA is also slower at processing multiple calls because it uses IBM's own synchronous networking protocol, LU6.2. Each call sent out by a client has to wait for a response before another is sent. SAG incorporates asynchronous protocols, which enables users to send multiple calls to different databases simultaneously. The integration of DRDA into third party products will also be problematic, according to Informix UK market manager, Tony Lacy-Thompson. DRDA application programming interfaces are more complex to write to than SAG APIs, he says. IBM DB/2 SQL dialects are difficult to link into Unix-based databases and each vendor has to adapt its respective database and gateway products to talk to DB/2 protocols. Although SAG gets top marks for technical merit - it is also an independent standards organisation - it doesn't have a complete solution and there is no documentation yet available on what it has put together. If DRDA lacks technical finesse, it has fulfilled IBM's own development goals and is already available for third parties to implement. Industry watchers say if SAG survives and successfully markets completed specifications by the summer, then the two solutions can co-exist. IBM and SAG would likely develop interoperability between their respective mechanisms. The more likely scenario is that support for SAG will wane, funding from members will dry up and DRDA will become a de facto standard by default.

COMMON OPEN SOFTWARE ENVIRONMENT

NCR Corp is being cautious about giving COSE its endorsement. On the surface it has no problem with it - the technologies at issue NCR either has or is moving towards - but it wants more information before it lends any support. Everything, it says, is not exactly crystal clear. For instance, it would like to know whether an endorsing company has to adopt everything COSE ratifies or whether it can pick and choose. It also wants to know what the position of **Unix International**, which it strongly supports, is going to be. Then too it would like COSE to indicate exactly what it would like a company such as NCR to say. It'll be a few weeks and several meetings before it has established an official position. It has to pick its way through the minefield of NT and Unix and estimate whether COSE is bigger than just the desktop.

How cosy (or cozy) is COSE? Not yet a month old and apparently there is concern in some quarters of the industry that **Hewlett-Packard Co** and **IBM Corp** (**Sun Microsystems Inc** to a lesser extent) may kidnap the promised platform and twist it to their own advantage. HP and IBM seem to be taking a vanguard position in this thing and are pretty cosy themselves (UX No 430). There are apparently lots of meetings going on, COSE having been divided into technology, product management and business sectors. However, there are tales of not everyone knowing what meetings are scheduled or being asked along. It could be altogether innocent but suspicions have been raised. Companies outside COSE's inner circle also fret about how it's selecting technologies. Members of **Unix International** have approached it about UI trying to get a piece of the COSE requirement process. Reportedly it's having informal discussions with the COSE crew.

If there is a twist to the plot, then it is nowhere more apparent than at the window management level where, it seems, **Hewlett-Packard Co** is determined to make its Visual User Environment stick. We know HP and **IBM Corp** are working on an early sample version of COSE code, which will include interface widgets, and HP's VUE look and feel dominated the COSE desktop shown at the original announcement (UX No 428). The VUE desktop management system lost out to **IXI Ltd's** X.desktop manager in the failed ACE initiative and HP is said to be determined not to lose this time around. It will be offering a COSE-compliant version of VUE to the other COSE founders. Indeed, **SunSoft Inc** is said to have taken VUE's virtual workspace - though not the icons and bars themselves - and is thought to have hired Motif experts from the **Open Software Foundation** and elsewhere to help it build a COSE desktop toolkit. At least one other COSE firm is worried that with HP having the ear of the larger COSE companies, its technology won't get a look in. It believes that unless the final COSE specification is very tight, and goes right down to things like icons and bars, then there is certain to be a wide variety of very different COSE interfaces on the market.

Trying to stay ahead of the game now that **Unix System Labs** is soon to have the weight of **Novell Inc** behind it, **Santa Cruz Operation Inc** - in conjunction with its **IXI Ltd** division - says it will begin to offer a fully integrated Common Open Software Environment platform as soon as possible, something it believes few outfits have the resources to do. It'll obviously buy-in many ready-made COSE components - including networking and the Open Software Foundation's distributed computing environment - and use the interfaces that'll be made available through the COSE specification. As with its intended role in the failed ACE initiative, SCO says it will do all the required integration work to become a one-stop COSE shop. Products - announcements are promised over the next few months - will ship direct and to OEM customers. SCO doesn't admit to be working on a COSE version of Microsoft Corp's Windows NT (UX No 429), but says it is technically possible to make NT look like a COSE implementation.

SunSoft Inc currently has three different toolkits for building user interfaces on its list. Development of the old News toolkit has been frozen ahead of its metamorphosis into Adobe Systems' Display PostScript. Development of XView, the SunView-to-Open Windows transition toolkit, has been halted, although the firm will continue to bug-fix and support it. Likewise, further development of Open Look as it is presently constituted is being discontinued, although there will be a new release in the Autumn incorporating the COSE specifications and X-Windows X11R5.

DESKTOP NT "AT \$180" - NEEDS 16Mb, SHIPS NOW PROMISED BY AUGUST

Although Bill Gates has apparently firmed up prices for Microsoft Corp's Windows NT operating system, they still aren't finalised, according to the company. The first ship date has moved off into the future again, and "no later than" August 1 is the new target. According to Gates, in comments reported in *PC Week*, large corporate customers looking to upgrade from Windows 3 to NT will be able to do so for less than \$100 per desktop - the upgrade price for Windows users will be \$300, which translates to \$180 "on the street" and less than "\$100 per system" after deep volume discounts, Gates told a meeting of the Corporate Association of Microcomputer Professionals in Chicago. OS/2 users will be offered "extremely low prices." NT's suggested retail price for new - desktop - users will be \$500. More bad news is that memory requirements are continuing to soar - Gates last week recommended that NT users install 16Mb on their desktop machines, even though the documentation may specify 12Mb - and no more than about 10% of 80486 machines have 16Mb. Servers could require more than 16Mb, he added. Initial NT buyers will need to have specific applications in mind for it - "If you don't know why you want NT, you probably don't want NT," he said.

LIBRARIES OR SOURCE FOR WINDOWS ON UNIX

On the subject of a "Windows layer" for Unix, the Microsoft Corp chairman said that the company is considering either libraries that would enable developers to recompile Windows software, or source-code licences that would allow third parties create and sell run-time versions of Windows for Unix. It's concept also used in the tool code-named Wings, formerly Alar, which recompiles Windows applications to run on the Macintosh. The strategy is to get developers to write just to the Windows programming interface, even for alternative operating systems, such as Unix and System 7.

IBM-MOTOROLA MULTICHIP MODULE FOR PARALLEL LYNX

The Center for High Performance Computing, a research and development entity based at Worcester Polytechnic Institute, has come to the rescue of the Motorola Inc 88000 RISC, commissioning a joint effort with the Military Products Operation, Semiconductor Products Sector of Motorola and the Technology Products division of International Business Machines Corp to create a four-processor multichip module based on Motorola's 88110-88410-62110 chip set and IBM's C-4 manufacturing and multichip module technology for use in its planned new Lynx massively parallel real-time multiprocessor and for future commercial operations. The Lynx is being designed to fit on a 6" by 9" circuit board for embedded and mobile real-time distributed applications, and the Center plans to deliver a small number of the four-processor Lynxes to the Defense Advanced Research Projects Agency in the fourth quarter of 1993 under a US Defense Department development programme. IBM will prepare the prototype of the multichip module.

ALSYS OFFERS ADA FOR SOLARIS

Alsys Inc, Burlington, Massachusetts, now owned by Thomson-CSF SA, has a series of Ada software development products supporting the Solaris 2X operating environment from SunSoft Inc. They include Alsys' AdaWorld for native development on Sparc-based computers and RISCAda line for real-time embedded system development hosted on Sparc-based computers, targeting the Motorola 68000 family. Alsys will upgrade its entire line of Sparc-based cross compilers and its 80386 Unix AdaWorld system to run under Solaris 2.X later this year. AdaWorld for Solaris 2.1 for Sparc is available immediately at \$7,500 per user. RISCAda/Sparc is available 30 days after receipt of order and is from \$6,000 to \$11,500, depending on configuration. The RISCAda/Sparc68K development system is from \$17,500 to \$35,000.

NEWS ROUNDUP

People

After a three month search **DEC UK Ltd** has appointed Christopher Conway as UK managing director and UK-Ireland territory manager: Conway comes from **IBM UK Ltd** where he was director of UK banking and financial services - Geoff Shingles, who resigned as managing director at the end of 1992, remains chairman.

Tektronix Inc has tapped Carl Neun, who resigned as chief financial officer of **Conner Peripherals Inc**, to take the same post at Tektronix.

Sybase Inc has picked up Francois Stieger to run its **Gain Technology** operation in Europe. He did wonders for Oracle Corp's revenues when he ran its European arm.

The Microprocessor Report expects Bob Miller to be replaced at **Mips Technologies Inc**. He apparently retains his seat on **Silicon Graphics Inc's** board and his post as head of Mips' architecture committee but it seems he's off with a new venture-backed work-station company called **NetPower Systems Inc**. He wouldn't discuss product plans but the newsletter thinks it will market low-cost Mips workstations made by OEM suppliers.

Ultra Network Technologies Inc's vice president of sales Michael Paul has been named president and chief executive officer of the company following the departure of the incumbent Ray Fortune. Paul had previously been vice president, domestic sales at the former **Mips Computer Systems Inc**.

Ing C Olivetti & Co SpA has appointed **Acorn Computer** founder, Dr Andrew Hopper as director of corporate research. He will continue to head up **Olivetti Research Ltd's** UK labs in Cambridge - which he also helped to set up - but will also direct research at the firm's Pozzuoli facility in southern Italy, where he replaces Piercarlo Ravasio. He reports to Lucio Pinto, executive vice president, technology strategy and corporate research.

Sunnyvale, California-based **ParcPlace Systems Inc** has appointed Richard Dym, formerly general manager of **Autodesk's** multimedia division, as its vice president, marketing.

The president of Edison, New Jersey-based **Verbex Voice Systems Inc** has skedaddled so the board has picked chief operating officer Larry Dooling, former USL chief, to replace him.

Lisa Drake, a former **Sun Microsystems Inc** senior product manager responsible for defining the company's 1995 desktop products, has joined **Solbourne Computer Inc** as director of marketing, reporting to president Carl Herrmann.

Unix System Labs Europe has appointed Julian Lomberg to the post of business development manager for northern Europe.

The **Santa Cruz Operation** has named Michael Skelton vice president, marketing, the Americas and Northeast Asia, a title that includes the US and Canada. He was vice president and general manager at **TAB Products Inc's** Laser-Optic Filing Systems Division.

Jeffrey Dunn has joined **Kubota Pacific Computer Inc** as vice president, marketing reporting to chairman and chief executive officer, Ben Wegbreit. He has been vice president, sales at **Cygnat Systems Inc**, the optical jukebox house.

nCube has named Jerry Sales to the new position of senior vice president, worldwide sales. He had been with **Gene Amdahl's Andor America Inc**.

After 20 years at **Data General Corp**, where he was most recently director of Unix Development and acting director of the Database Engineering unit at the company's Research Triangle Park, North Carolina base, John Pilat has jumped ship to become vice-president of Redwood Shores-based **Oracle Corp's Hewlett-Packard Products Division**.

Meanwhile, Robert Hughes joins **Data General Corp** as vice president worldwide sales and service from **Bachman Information Systems**. And Stephen Gardner, formerly president of **Bull HN Information Systems' CICS-on-Unix Integris** unit, has gone to **Data General** as vice president, Aviiion marketing.

Legato Systems Inc has promoted co-founder Rusty Sandberg, its manager of Unix product development, to general manager of the Unix Product Group, responsible for developing and marketing company's line of Unix products.

Events

A group of software developers are getting together to create a demo CD-ROM of their software for **SCO Forum** this summer. Interested parties should contact George Pajari of Faximum at +1 604 925-3600.

The **Open Software Foundation** says vendors have registered 22 platforms for the **Distributed Computing Environment Interoperability Festival** it is hosting between April 12-30th at its Cambridge, Massachusetts headquarters. Vendors which successfully complete DCE validation testing will be eligible for OSF's Challenge '93 event on May 25 and 26 at which all kinds of OSF technology-based solutions will be on show.

The Comdex people are putting together a show for South America as a joint venture with local operation. **Comdex/Sucesu** is set for the Parque Anhembi and Center Norte in Sao Paulo, Brazil August 23-27 and expects 450 exhibitors and 135,000 attendees.

The **Corum Conference** people are running a series of seminars on both the East and West Coasts on how to value, prepare and sell your software company entitled "Selling Up, Selling Out." It costs \$200 to attend. (206) 455-8281

Dataquest will hold a series of exhibitions in Central and Eastern Europe this June. The shows will take place at the Duna InterContinental in Budapest on June 15, the Atrium in Prague on June 18, and at the Marriot in Warsaw on 22 June.

The third **Usenix MACH Symposium** will be held at the El Dorado Hotel in Santa Fe, New Mexico April 19-21.

Object Expo will reprise at the New York Hilton on April 19-23. Meanwhile, **Object Management Group's** next Object World is set for San Francisco on June 14-17 at the Moscone Center.

The **X Business Group** is going to throw what it calls the first industry conference for X Windows, GUE and client/server technology June 7-8, just before **Xhibition**, at the Fairmont Hotel in San Jose, California.

The **Open Software Foundation** will be using the Ingres database to demonstrate application portability and interoperability on OSF technologies at its **Challenge '93** exhibition in Boston, in May. The Ingres Windows4GL is now available under **SunSoft Inc** Solaris 2.1 and the Open Look graphical user interface.

Europe

In the face of falling demand for its **Intel Corp** i860 RISC compilers, **The Portland Group**, Wilsonville, Oregon, has shut its European office in Reading, Berkshire, which had been run down to two employees.

Moscow-based **Steepler** has signed an agreement with **Hewlett-Packard Co** under which it will handle distribution of HP workstations - the Palo Alto firm's first reseller agreement for products other than its PCs. Meanwhile, **Elogar**, one of the first suppliers of **Silicon Graphics Inc** workstations to the Russian market, has ceased distribution of **Wavefront** software. Instead it has switched to **SoftImage**. **Wavefront** will be distributed by **Steepler**.

Amdahl Corp, **HaL Computer Systems** and **Encore Computer Corp** have each signed for **Micro Focus plc's** Cobol/2 compiler: the UK, Newbury-based firm has also signed **Result Computer Systems**, Croatia, to distribute its products to dealers and third parties in the former Yugoslavia and and **TeleLogic**, Budapest, to peddle its wares in Hungary.

DEC has returned to the **Technology Plc** fold by re-appointing the UK, Warrington-based company as a value-added reseller for predominantly desktop and server products. **DEC** withdrew its business, when **Technology** was acquired by **ICL Plc** in July 1992.

Greenbelt, Maryland-based **Empress Software Inc** has signed Bucharest developer and consultancy **Q'Bit**, to distribute its products in Romania.

Unilever, the Anglo-Dutch multinational company, has standardised on **Lotus Development Corp's** Lotus Notes software as its company-wide form for computer conferencing: Lotus will now have upto 30,000 Unilever Lotus Notes users worldwide.

PENTIUM - DEFINITELY "CISC, NOT RISC", BUT FASTER THAN IBM, SUN CHIPS ON INTEGERS

The *Microprocessor Report* has put together a table of results comparing the performance of Intel Corp's new Pentium CPU against the leading RISC suppliers. It concludes that Pentium is not, as Intel would have us believe, a RISC in CISC clothing. The fact is that "the complexity of the iAPX-86 architecture - the variable length instructions, complex instruction formats, multifunction instructions, and so forth - has a pervasive effect on the chip's design. It is accurate to say that the 80486 and Pentium processors use many of the same implementation techniques as RISC processors, but there is nothing in either processor that can be called a "RISC integer unit" without distorting the term beyond any usefulness." Although Pentium has roughly the same performance as Mips Technologies Inc's R4000, a mid-range RISC processor, Pentium "is going into production more than a year after the R4000, and it has about 2.5 times as many transistors, even though the caches are the same size." The Report believes Pentium will cost "substantially" more than the R4000. On the benchmarks themselves, Pentium outstrips IBM Corp and Sun Microsystems Inc's fastest processors on integer performance, and is closing the gap with the RISC chips on floating point, although all are still comfortably ahead of the Intel processor with the exception of SuperSparc, which has only a 10% advantage over Pentium.

System	Intel prototype	Compaq Deskpro/66M	DEC 7000 Model 610	HP 9000 Model 735	RS/6000 Model 980	SGI prototype	SparcStation 10/41	Sparc Classic
Processor	Intel Pentium	Intel 486DX2	DECchip 21064	HP PA7100	IBM Power 6264	Mips R4400	TI SuperSparc	TI microSparc
Clock Rate	66MHz	66MHz	200MHz	99MHz	62.5MHz	75/150MHz	40MHz	50MHz
Cache on/off chip	16K/256K	8K/256K	16K/4Mb	none/512K	32K/64K	32K/4Mb	36K/1Mb	6K/none
SPECint92	64.5	32.2	106.5	80.0	59.2	94.2	53.2	26.4
SPECfp92	56.9	16.0	200.4	150.6	124.8	105.2	63.4	21.0

Meanwhile, *RISC Management* newsletter has produced a table which compares the integer performance of various CPUs against the clock speed at which they are driven. It notes that if Intel Corp were to figure out how to drive 3.8m transistors really fast, Pentium would look pretty good.

Frequency adjusted performance	
Architecture	SPECint/MHz
SuperSparc	1.33
Pentium 66MHz	.98
RIOS 1	.97
PA7100	.82
88100	.80
PA RISC	.79
R6000	.77
R3000	.75
Sparc	.66
80486	.60
R400SC	.58
microSparc	.53
Alpha	.53

ORACLE7 UP ON APPLE A/UX

Oracle Corp says that its Oracle7 Co-operative Server database is now up on Apple Computer Inc's Workgroup Server 95 running A/UX, Apple's implementation of Unix, adding that the product is the result of over one year of joint development work between Oracle and Apple. Several more products are planned to follow over the next 18 months, including software engineering tools. The production release of Oracle7 for A/UX is out next month and is from \$4,000.

DOCUMENT COMPANIES GANG-UP

The consortium du jour is DIM, the Document Image Management Consortium, founded last week at the AIIM show in Chicago. Members include Sun, Xerox Imaging Systems, Access Graphics, Excalibur technologies, Frame, Fujitsu Computer Products of America and Laser Magnetic Storage International. The idea is to jointly develop a complete DIM solution for converting, storing, retrieving, editing and distributing documents in the Unix environment. The DIM system demonstrated run on a Sparc and consists of Xerox's ScanWorX OCR software, Fujitsu's M3096G scanner, Frame's publishing software, Excalibur's document imaging software and Laser Magnetics's optical storage. Access Graphics will distribute it.

USL TAKES BRISTOL XPRINTER FOR SVR4.2

As suspected (UX No 430), Unix System Labs has licensed Bristol Technology's Xprinter software for SVR4.2. Xprinter provides a single Xlib-based X Windows imaging API for software developers so they can add printer support without learning PostScript or PCL commands. Software Developers Kits will be licensed as source code or binary through USL, binary through its OEMs and directly as either from Bristol.

DIT HAS NEW FILE SWAPPING SOFTWARE

New Mexico-based Digital Instrumentation Technology has announced TransferPro, software that lets users do file operations between workstations, PCs and Macs like copying, moving, deleting, renaming and creating. It is a non-network solution and reportedly allows Unix systems to read and write both MS-DOS and Mac data seven times faster than Sun's PC/NFS. It can also transfer files to SCSI devices. The software is available for Solaris 2.1 and Silicon Graphics/Motif priced at \$350 for single users and \$850 for a floating licence. It will be sold through distributors and retail operations.

CHANNEL SEMINAR AT RESELLER SHOW

There's a separate Channel Marketing Seminar attached to the new Unix Reseller Show in Dallas that's set for May 3, the day before the expo kicks off. Topics include: "Why Unix Vendors Must Court and Support Resellers," "Tuning into the Unix Channel," "Selling Unix Solutions in the International Marketplace," "Closing Open Systems Sales" and an intensive "Trade Show Advantage" workshop. Come one, come all. One of our editors is speaking. +1 609 987 9400

HUNGARY SEEKS SOCIAL SECURITY SYSTEM

The Hungarian government is inviting tenders for a project to computerise the social security system. The project will be funded by the World Bank which is to provide loans totalling \$130m over the next four to six years to pay for hardware, software, consultancy and data entry. Front runners for this project are thought to be ICL Plc, Data General Corp and Hewlett-Packard Co. The Hungarian tax office is also expected to invite bids shortly for the supply of a mainframe-sized central system and 20 large Unix servers destined for regional offices along with related peripherals.

ACE ADDS T9000 COMPILERS

Associated Computer Experts BV in Amsterdam has announced the extension of its Expert compiler range to include T9000 compilers for K&R, C, ANSI-C, Fortran-77, Modula-2 and Pascal. A suite of general purpose program development tools is also available. All Expert compilers share the same intermediate code which is processed by a common global optimiser. The compiler has an industry standard COFF T9000 assembler and COFF linkage editor and there is integrated debug support for source level and assembly level debugging.

WHITE CROSS WILL MOVE TO T9000

Bracknell, Berkshire-based White Cross Systems Ltd says it plans to develop a new generation of parallel database servers based on the T9000 Transputer for next year. The company already uses Inmos Ltd's T425 processors in its 9010 Database Server and reckons that the T9000 will improve performance levels ten-fold.

WIND RIVER PUTS VXWORKS ON INTEL

Wind River Systems Inc, Alameda, California, is porting its VxWorks software development environment to Intel Corp's iAPX-86 family. It'll allow embedded systems designers to write applications on PCs or under Unix. Prices for VxWorks on Intel-based workstations start at \$23,500 for a 10-user licence in June, MS-DOS editions are due in September at \$13,500.

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Hewlett-Packard Co has reduced prices on the six members of its existing HP700/RX X-Windows station series by between \$500 an \$1,000 and introduced a new 17" colour 17Cs monitor with 4Mb RAM at \$4,700.

Matsushita Electric Industrial Co and **Sybase Inc's Gain Technology** have developed an object-oriented application development environment for designing multimedia presentation systems, called **Activepage**.

Santa Cruz Operation Inc is to market Israeli firm **Magic Software Enterprises Inc's** code-free rapid application development environment: **Magic** has offices in Canada, France, UK and the US - +1 714 250 1718.

IXI Corp in the US says it gave away some 500 copies of its **Motif** toolkit for Sun workstations during the recent **SunSoft Inc** developer's conference.

The European market for X-Windows-based technologies was worth \$281m late year, according to a new report by the **X Business Group Inc**, Fremont, California. Sales of X terminals accounted for \$155.2m, or 55% of the total. \$49.8m (18%) was swallowed up by channel margins, interface development tools accounted for \$39.2m (14%), services \$21.7m (8%), desktop environments and graphical user interfaces \$9.23m (3%) and personal computer X servers \$6.8m (2%). The report costs \$2,000. +1 510 226 1075.

What with all the forms to fill out and papers to file, it looks like the **Novell Inc/Unix System Labs** acquisition won't be formally closed until June, two or three months later than they originally figured: they should have the required stockholders meeting scheduled in the next 30 days.

Star Technologies Inc says the **Michelangelo Virus** can be transmitted to the Santa Cruz Operation Inc Unix boot sector if an infected MS-DOS disk is booted from the floppy drive: it's got a disinfectant. +1 714 768-6460

Ing C Olivetti & Co SpA was showing off a prototype workstation built around the DEC Alpha AXP RISC and running **Microsoft Corp** Windows NT at the Hannover CeBit show a couple of weeks ago.

In Europe, the **SunSoft Inc** Solaris x86 desktop is priced at £600, the workgroup server version is £1,525, whilst the enterprise server starts at £4,600.

Dansk Data Elektronik A/S, Herlev, Denmark, is claiming a world record SPECrate_int92 performance of 8,383 for its eight-way Mips R4000-based Supermax Multiserver system.

The **Microprocessor Report** claims **Motorola Inc**, which just got together with **SunSoft Inc** to put Solaris on the PowerPC, will likely pursue a **Microsoft Corp** Windows NT port to attract other customers besides those it's already got.

Taligent Inc, now a year old, has 260 employees. Its charter calls for supporting high-volume desktop hardware platforms, initially **Intel Corp** iAPX-86 and the PowerPC.

Version 2.0 of Santa Clara, California-based **Mercury Interactive Corp's** XRunner software testing system is now available. The new release creates tests that automatically adapt to changes in a graphical user interface such as buttons and menus moving or being re-sized.

Amdahl has laid off another 150 manufacturing employees in Sunnyvale, and word in the Valley is that more may go in May.

Smallworld Systems Ltd, the Cambridge, UK firm that specialises in geographical information systems, has opened an office in Orlando, Florida. +1 312 482 9431.

Why did **Hitachi Data Systems Ltd** choose the name **Osiris** for its new mainframe Unix combination (see front page)? In the clearest indication possible that it regards the MVS mainframe as doomed, it has produced a colourful flyer that explains that **Osiris** was an ancient Egyptian king who after painful adventures became a god, and chose to act as an intermediary between the living and the dead, looking after the souls of the departed and giving the living the hope of eternal happiness in the other world; "In providing a quality solution which integrates open systems with existing System 370 and 390 environments," the company says, "HDS provides the best of both worlds" (the living and the dead, that is).

Reportedly **AT&T** was anxious to see the back of **NCR Corp's** ex-CEO **Gil Williamson** because he just wasn't user-friendly enough, not a motivator. On the other hand, the new guy **Jerry Stead** likes to be called "Coach."

Looks like there really was a shortfall in attendance at **Uniforum** (UX No 429). Their list peddlers are hawking the names of 21,000 attendees, the lists with exhibitors excluded. A far cry from the 40,000 they were promising.

SunSoft Inc is moving 30 of its software engineers out of its Massachusetts operation and sending them to **Sun's** Colorado Springs site where they do R&D, design of high-performance workstations and other special projects. The crew is expected to be involved in networking technologies and other system software stuff.

Menlo Park, California-based **Objectivity Inc** says it's shipped over 50,000 development and runtime licences for **Objectivity/DB** and says there are 20 **Objectivity** applications in production.

Qualix Group Inc, San Mateo, California, has announced **KeyIt**, a \$200 software product that will let Sparc users create hot key-activated macro commands that correspond to any sequence of keyboard or mouse inputs. It is a companion to **SayIt** which builds voice activated-macros.

Seems **IBM** and **Microsoft Inc** among others have managed to get themselves knocked off the US Government's GSA list for not providing enough pricing information - everything will have to be bid. **Intergraph Corp** last week told Wall Street to expect first-quarter losses somewhere between \$6.5m and \$7.5m on revenues of \$280m-\$285m, below expectations.

DEC is expecting to have conversations with friends at **Hewlett-Packard Co** in the next few weeks about its participation in COSE. Like **NCR**, it needs to collect more data on what they're really doing, figure out the structure and find out how COSE would want DEC to participate. Also like **NCR**, if this thing is primarily concerned with the desktop, DEC wouldn't be very interested.

Digital Equipment Corp will have revamped its proprietary transaction processing monitor, **ACMS**, for Alpha AXP architecture running OSF/1 by the beginning of next year - support for Alpha OpenVMS, Windows NT and X/Open's XA transaction processing interface will follow.

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As expected (UX No 410, 430) **Sybase Inc** has begun shipping **OmniSQL Gateway**, its transparent data access software for distributed database environments: it is priced from \$2,500 to \$102,500. More **Sybase** System 10 announcements follow on April 27. A newcomer to the firm's executive team notes that the company has increased staff by 700 since June. Revenues are up 65% and profits by 150%.

Sun Microsystems Inc CEO **Scott McNealy** declined to comment on rumours **IBM** is interested in his company "no matter how silly or accurate they are." Personally we don't put much stock in them but you never know.

Sparc International is policing its Sparc trademark privileges: it has sent hierarchical storage start-up **Hiarc Inc** a cease and desist notice to stop using the name **Sparcus** on the software that transparently manages Unix files. **Hiarc** has apparently agreed and is arranging a temporary licence until it changes the name, a move **Sparc International** would probably insist on since **Hiarc** wants to move the software to non-Sparc platforms.

Whatever turns you on... **Microsoft Corp's** UK flackery is putting it about that **Inside Windows NT** by **Helen Custer** has sold more copies than **Madonna's** weighty **Sex** tome.

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**SUN MULTIPROCESSING DESKTOPS DUE THIS WEEK,
EIGHT-WAY SCORPION READY FOR SUNWORLD DEBUT**

Sun Microsystems Inc is expected to muster another technology paradigm this week when it brings multiprocessing to the desktop. The company is due to unveil its anticipated high-end SparcStation 10 models on April 21, and will bring them out at substantially reduced price points to stimulate growth of a high-powered multitasking/multiprocessing desktop marketplace. Sun's current multiprocessing entry price is listed as \$40,000. With the announcement it could be reduced by around 40%. The expected models 52 and 54 will be fitted out with 50MHz SuperSparc+ chips, which Sun's silicon partner Texas Instruments Inc is now producing in volume - details on page five - and introduced under a new multiprocessing numbering scheme that will see them called the 512 and 514 respectively. Accordingly, the five refers to the 50MHz chip, the one to the machines' 1Mb cache and the two and four to the number of processors. The SparcStation 10 Models 30 and 41 will stay in the product line but other additions are expected to be made and there will of course be Mbus-based upgrades. Sun has been fairly successful in the Unix multiprocessing arena. According to InfoCorp figures believed to be close to the mark, it installed 10,000 units its first year in the business, giving it the number-one slot in that market. Sequent Computer Systems Inc trails with a total installed base of 6,000 machines after eight or nine years in business. Sun also claims it has shipped 70,000 Sparc 10 multiprocessing-capable machines to owners who are just now beginning to see the advantages of going to multiprocessing. Sun is also readying its Scorpion eight-way Sparc desktop machine for introduction at the SunWorld show on May 11 (UX No 429). Reportedly the server will be dirt cheap, perhaps as low as \$50,000. Scorpion is said to outperform a SparcStation 2 by a factor of between 12 and 15 times.

COSE FIRMS EXPECTED TO PICK UP SUNSELECT WINDOWS-ON-UNIX ABI

WABI, SunSelect's ace-in-the-hole Windows-on-Unix software, moved closer to being adopted by the COSE crew last week as licensing agreements circulated for signature. A pawn in the chess match between Unix and Microsoft Corp, WABI is starting to be described in some circles as more important than COSE itself. It is believed Unix System Labs Inc, Univel Inc, IBM Corp, Hewlett-Packard Co, SunSoft Inc and Sun Microsystems Inc will all pick it up (UX No 428, 431). As we went to press there were also unconfirmed rumours of Digital Equipment Corp, currently a non-COSE participant and Microsoft ally, being interested. The most favourable pricing SunSelect is offering WABI licensees demands lower royalties on Intel Corp machines than on RISC and less on bundled products than unbundled. Contract terms are volume-based and ask for \$18 per-user bundled and \$36 unbundled (or in cases of unbundling 30% net revenues whichever is more) for single-user Intel boxes in volumes of 100,000. Comparative figures for RISC machines are \$27 and \$54. As volumes increase, royalties decrease so that for single-user Intel machines bundled and unbundled the respective payments are: \$12 and \$24 for 100,000 to 250,000 units; \$9 and \$20 for 250,000 to 500,000 units; \$6 and \$12 for 500,000 to one million units and \$5 and \$10 over a million units. For RISC single-user machines bundled and unbundled the respective royalties are: \$18 and \$16 for 100,000 to 250,000 units; \$12 and \$24 for 250,000 to 500,000 units; \$9 and \$20 for 500,000 to one million units and \$5 and \$20 for over a million units. This pricing apparently holds for multi-user sites of up to four users. At five or more a discount, reportedly of 25%, kicks in. In the past, this kind of pricing scheme has been notoriously difficult to manage. Meanwhile, SunSelect continues to be skiddish on any questions about WABI's list price, packaging, availability or anything else substantive ostensibly because of the gala rollout it has planned for May 5 at the 500-seat Great American Music Hall in San Francisco, having ditched plans to hold it at the giant Paramount Theatre in Oakland, California. Apparently, however, WABI has been productised and packaged and there is said to be some kind of cross-productisation afoot with parent company Sun Microsystems Inc. SunSelect says it will integrate WABI and the Insignia Software Inc-derived SunPC so users can run both Windows and MS-DOS programs. SunSelect doesn't want to define exactly what integrate (its word) means or how tightly bound over time the products will become but it seems they will still be two separate things. Reportedly WABI will run any well-behaved Windows application like Excel, Word, Ami, Harvard Graphics and the Microsoft packages. More details, page five.

**ICL UNLEASHES HYPERSPARC
MODELS IN DRS6000 BLITZ**

ICL Plc almost doubled the the number of Unix servers it now offers by adding seven new models to its Sparc RISC-based DRS 6000 line last week. The announcement also included a new bundle of ManageWare middleware applications designed for client-server implementations, and version 7 of its OfficePower office automation suite. Alongside a new Level 300 Series of "compact" DRS 6000 servers, most of which use Texas Instruments Inc's SuperSparc processor, the company, as expected (UX No 428), unveiled three new high-end multiprocessors that use Cypress Semiconductor Corp's rival, but plug-compatible HyperSparc RISC. Mike Coote, managing director of ICL's mid-range systems division cites "tactical" reasons such as price-performance for the decision to use HyperSparc, and not any inability on the part of TI to deliver SuperSparc in sufficient quantities or at suitable performance levels. ICL has filled out the top end of its DRS 6000 range with new multiprocessing models 780 and 782 in the 700 series. The 780 uses two 66MHz HyperSparcs on a single board, the 782 is configured with two boards. The 780 and 782, which come with up to 512Mb RAM and 103Gb disk, will cost around £100,000 and £150,000 respectively when configured for around 200 users. The 400 series has a new high-end model 480 which again uses a pair of 66MHz HyperSparcs on a single board. With up to 256Mb RAM and 60Gb disk, it starts at around £65,000. At present ICL only has prototype HyperSparc machines at its US development headquarters in Irvine, California and UK office in Bracknell, Berkshire - the systems aren't available until the third quarter. ICL claims 782 performance will top 240 TPC-A transactions per second - some 10% more transactions per dollar than the existing four-processor 764 SuperSparc box offers. 780 and 480 performance marks are estimated at 170 transactions per second. The HyperSparc models use boards manufactured by ICL using its CPU 2 - two CPUs to a board - design. CPU2 also features on the existing multiprocessor SuperSparc models 450, 750 and 752, all of which are upgradeable to HyperSparc. This doesn't mean ICL has given up on the TI Sparc line, simply that it can now pick and choose from the two superscalar solutions on offer, says Coote. Coote, who replaced Andy Roberts as mid-range boss at the beginning of April, says the decision to use HyperSparc was only taken three months ago. No further expansion at the desktop level is planned, but a new series of high-end DRS boxes due next year built around Pyramid Technology Corp's R bus technology could use either processor, depending on which offers best price/performance at the time, he says. More details, page four.

UNIX CLUSTERS HAVE AMBITIONS TO REACH VAX/VMS LEVEL FUNCTIONALITY

Six months on from the launch (UX No 409), Sequent Computer Systems claims it has won 30 customers for its ptx/Clusters high-availability clustering technology, most with several hundred users attached. DEC's tight VAX/VMS clustering model is the benchmark to aim for, according to Sequent's clustering product manager James Fitzgerald: the definition is "a shared disk system at normal disk access rates between several autonomous machines that are being centrally controlled", he says. Among Unix companies, Sequent has got the closest towards this model, claims Fitzgerald, IBM being the other main contender. NCR Corp with its Life-Keeper product (UX No 420) is also making progress. But the main focus has been networked distributed computing, which doesn't provide the same levels of performance or fault-resilience - and it's this aspect that the Sequent customers are most interested in. Components of the Sequent solution include a true fault tolerant distributed lock management system as an extension to the operating system, and an integrity manager to check that all the nodes are working. The Network Queuing System, which Sequent obtained from the supercomputing world, provides load balancing and dynamic job bidding. Software RAID features and volume management - an extension of the Veritas product - are also included. Ease of use is also an important element, as most failures are still the result of human error.

Transparent data sharing

Despite their focus on resilience, a set of Sequent's customers are planning to extend their clusters beyond this towards transparent data sharing. They are asking clusters to pull together their existing key databases rather than implementing a full networked database, a task which is still very hard to manage. This movement will be accelerated once Oracle users have made the shift over from Oracle 6 to Oracle 7, from where they can extend further towards the Oracle Parallel Server. Another boost will come from the availability of the Forte client-server development environment from Oakland, California-based Forte Software Inc (UX No 409), currently in beta test, which allows a developer to build an application as a whole, dividing it up later between clients and servers as they wish. It will mean customers won't have to re-write their applications to take advantage of clustering. Sequent may also put the stuff on its forthcoming Microsoft Corp Windows NT-based boxes. But there are still holes in the Unix clustering model, claims Fitzgerald, the most glaring being the lack of a high-availability shared coherent file system across the cluster. NFS can provide only "weak clustering", while the Open Software Foundation's Distributed Computing Environment is "a very large chunk of code not fully shaken out", according to Fitzgerald, and has a lot of baggage that doesn't apply to clustering, "when you have SQL access right there". Sequent is working on its own solution, but won't comment on any release plans.

LONG ARM OF SPARC INTERNATIONAL REACHES UK AS SPARCDIRECT BECOMES SDIRECT

Like its action against Hirc Inc last week (UX No 431), Sparc International, the evangelising supporters group for Sun Microsystems Inc's RISC has come down like a ton of bricks on a small UK start-up trying to carve a living out of the Sparc-compatible space. As a result, Sparcdirect, Standish, Lancashire, will have changed its name to Sdirect by the end of the month. Founder and managing director Simon Goodfellow - a refugee from Solbourne Computer Inc's UK operation - thinks Sparc International was unnecessarily aggressive in the way it handled the use of the Sparc trademark, given that its mission is to encourage the development of a Sparc marketplace. Sparcdirect has been selling OEMed specialist utilities software - plus packages like Frame and Lotus 1-2-3 - to UK Sparc system users since last November. Goodfellow believes there are at least 50,000 (and possibly up to 70,000) Sun users in the UK for the firm to target. It currently has 70 packages on its price list, including Digital Instrumentation Technology's TransferPro file format exchange software (UX No 431), which has an end-user price of £300. With four employees, Goodfellow hopes Sdirect will turnover £1m by the end of the year, 30% of which is expected to come from reseller deals. +44 257 473199

SQL ACCESS GROUP DEBUTS FIRST SPECS

The SQL Access Group (SAG) has published its first three specifications, which set guidelines for database interoperability and communication, after more than three years in development (UX Nos 382, 431). The lack of SAG documentation has caused customer and database vendors a significant amount of frustration and in a number of cases has forced them to turn to alternatives, such as IBM's Distributed Relational Data Architecture. According to SAG chairman Jeff Balboni, the organisation is aware of the discontentment and hopes to sooth disappointment with the publication of these first few specifications. However, documentation on further specifications are not scheduled for release for another 18 months or so. SAG will sell the Call Level Interface, a 3GL application programming interface for C and Cobol, which defines a set of calls for interfacing to a variety SQL implementations. It is priced at \$70. Other specifications include SAG's own implementation of ISO's Standard Query Language (SQL), it costs \$70; and Remote Data Access, which defines communications between SAG-compliant clients and remote servers, it is priced at \$62. +1 415 546 8080.

ROSTER OF BIDDERS FOR HUNGARIAN TAX CONTRACT NOW RUNS TO 19 COMPANIES

Nineteen companies have indicated their intention to bid for the contract to computerise Hungary's tax system, with three more companies expected to join the fray in the next few days. The project is to be paid for with a tailor-made \$29m World Bank loan, which is scheduled to be approved by the Hungarian government later this month, before being signed off by the bank. Agnes Huszti, the project manager at the Hungarian Tax Authority, APEH, who is responsible for appointing experts to evaluate the technical parts of the bids, reported that all the major companies were participating in the bidding process. Huszti said that the APEH did require an "open system", and he claimed that this did not necessitate a Unix system, indicating that conformance to the X/Open Co Ltd XPG/3 branding standard might not be obligatory - even though the Hungarian government decreed that X/Open branding should be used in all government tenders back in August last year. Huszti also noted that bidders would be permitted to sub-contract work if they were unable to meet any particular requirements of the tender. A conference will be held in Budapest for all bidders this month, before the technical bids are evaluated in May. Some companies may be disqualified at this stage, and the remaining companies will then have three weeks to cost their bid.

LEAK SHOWS DEC'S HUNGARIAN FIGURES

Digital Equipment Corp's Hungarian subsidiary reported sales of \$30m in its financial year to October 1992, up from \$16m in the same period of 1991. The information, which DEC had previously treated as confidential, came to light after DEC Hungary executives accidentally handed an internal company newsletter to a local Canadian freelance journalist. DEC is widely held to be the largest foreign computer company in the country, although IBM Corp's turnover is unknown. Hewlett-Packard Co's 1992 revenues stood at \$16m, ICL Plc's at \$12m, and Compagnie des Machines Bull SA's figures, while not disclosed, are believed to be in the region of \$12m to \$15m. During the 1980s, the domestic industry opted almost exclusively to clone the DEC VAX, and when the company set up a subsidiary in Hungary in 1990, it held off suing the key clone supplier, KFKI, in return for the firm handing over its customer lists. This has given DEC a considerable advantage in picking up small and medium-sized accounts.

MICRO DECISIONWARE OPENS UK OFFICE

Database gateway specialist, Micro Decisionware Inc, Boulder, Colorado, has opened international headquarters in the UK to sell and support its flagship product, Database Gateway. Vice president international operations, Terry Booth, will head up the operation. The office will be responsible for setting up indirect sales channels across Europe, South America and the Asia-Pacific. Database Gateway provides transparent data access across a variety of relational databases including, IBM's DB2/6000, DB/2, SQL/DS, OS/2, Sybase's SQL Server, Oracle and Informix - it is IBM Distributed Relational Database Access- and Microsoft Open Database Connectivity-compliant. +44 628 660570.

THREE NEW DEC ALPHA BOXES DUE - TARGETS SUN WITH SUB-£5,000 MODEL

Digital Equipment Corp will launch three new Alpha workstations running the OSF/1 operating system this Tuesday, April 20th, adding a new high end model and two entry level machines - the cheapest of which is priced at less than £5,000. DEC says it hopes to target the new systems against rivals, such as Hewlett-Packard Co and Sun Microsystems Inc, by offering at least twice the price/performance. DEC's 3000 model 500X is a high performance graphics system with a claimed performance rating of 160 SPECmarks and an expected price tag of £30,000. It is positioned against Hewlett-Packard Co model 755 workstation, which runs at 147 SPECmarks and costs £48,000. The model 500X comes with 64Mb RAM, up to 3Gb of storage, five TurboChannel slots and two-dimensional graphics upgradeable to three-dimensional. Lower down the line, the DEC 3000 model 300 will deliver 85 SPECmarks and the entry level machine, the model 300L non-expandable system offers 55 SPECmarks - both models come with 64Mb RAM and 520Mb disk. According to DEC UK workstation marketing manager, Charles Monk, the 300L will be targeted against Sun's 50MHz microSparc-based Classic machine, which costs £3,655. He said the firm doesn't expect to match that price but claims it'll offer twice the performance at just under £5,000. DEC is also expected to launch a range of Alpha and Pentium personal computers running Microsoft Corp Windows NT this summer. The 150MHz Alpha-based personal computer will be a tower system and is scheduled for introduction the end of May. The Intel Corp Pentium desktops will come in 60MHz and 66MHz configurations and are due the end of the third quarter.

MOTOROLA TO SAMPLE 68060 IN JULY

Motorola Inc's semiconductor division will begin sampling the next generation 32-bit, 68060 microprocessor in the third quarter. Motorola quashed its predecessor, the 68050, last year after it decided the development wasn't advanced enough to justify the spend on production (UX No 407). The 68060 will initially be offered in two versions, running at 50MHz and 66MHz. The company claims the thing will perform at 100 MIPS and 15 MGFLOPS, processing more than one but less than two instructions per cycle. The 68060 is a static modular, superscalar and superpipelined part built using 0.8-micron CMOS technology - BiCMOS techniques will be incorporated in the 68080 and 68100, Motorola says. The 68060 operates at 3.3 volts, features an integrated floating-point unit and has two 8Kb caches on the chip. According to Motorola UK's 68000 marketing manager, Neil Martin, the firm will ship between 100,000 and 200,000 samples as early as July, with a suggested price tag of around \$500 for the 50MHz part. There are no plans for a 64-bit 68000 design. Apple Computer Inc has already declared its interest in the chip and plans to introduce a 68060-based machine in the second quarter next year. Also expected in the 680x0 complex instruction set family of microprocessors is a 250-350 MIPS 68080 due by 1995 and a 800 MIPS - probably the 68100 - by the year 2000 (UX No 380).

HP, DATA GENERAL, DELL, NEC, SNI, ALL SIGN UP FOR NEXTSTEP

Lending the lie to the sceptics that saw no hope of NeXT Computer Inc winning any significant licensees for its object-oriented NextStep environment now that the company has abandoned its hardware side, the company last week announced Hewlett-Packard Co, Dell Computer Corp, Data General Corp, Siemens-Nixdorf Informationssysteme AG, Epson America Inc and NEC Technologies Inc are going to sell factory-installed NextStep on 486 and Pentium-based machines through their distribution channels. Ingram Micro D, the big US distributor, will also handle the \$795 software, expected to start shipping May 25. NeXTConnection, a PC Connection division, will move the stuff through its mail-order operation. NextStep Developer, the company's development kit, will list for \$1,995 and combined, since developers need both, for \$2,790. NeXT CEO Steve Jobs says NextStep will run on 100 personal computers by the time it's released including AST Research, DEC, Gateway 2000, Intel, Lucky-Goldstar, NCR, Toshiba and Zenith. NeXT's direct sales force is concentrating on Fortune 500 accounts which will bring in OEMs as applicable.

ICL OFFERS COMPACT SERVERS FROM £8,700...

Alongside its three new multiprocessing HyperSparc models, ICL plc last week introduced a new Level 300 series of low-end servers in its DRS6000 series designed in conjunction with ICL parent Fujitsu Ltd. They sit between the slimline desktide 400 series and the 240 desktop machine. The four models can each accommodate up to 128Mb RAM and 30Gb disk. The model 340 uses a standard 40MHz Sparc, the 360 and 370 have single 36MHz and 40MHz SuperSparcs respectively, whilst the 372 has a pair of 40MHz parts. Prices for the 300 series start at £8,700, rising to £45,000 at the top-end - all are available from June. Performance is rated at between 40 and 120 transactions per second across the range. From May, ICL Unix boxes - plus the HyperSparc models when they arrive - will come with DRS/NX Server version 7, its implementation of Unix System Labs' Unix SVR4.2 operating system with a choice of Open Look or Motif interfaces. DRS/NX 7, pre-bundled with the Series 300 models, can run binary SunSoft Inc Solaris 2.x applications unchanged, has a multiprocessing option and is X/Open Co XPG4 compliant.

...TECHNOLOGY TO OFFER 300 SERIES AS ITS FIRST COMMODITY UNIX BOX...

Meanwhile ICL's UK, Warrington-based distributor, Technology plc, will be offering the new DRS6000 series 300 models as part of its volume Technicl product line, the first time it has handled a Unix box as a commodity item. Each 300 model will have a parallel Technicl equivalent in the £10,000 to £50,000 price range. They'll be offered in fully-configured arrangements according to customer requirements, with shrink-wrapped software. The user-installable systems will be delivered within 48 hours of order. Without the usual ICL handholding and consulting, they'll list at around 10% cheaper than ICL's list price. Technology will sell the boxes via direct mail, catalogue and telesales to end-users and both ICL and non-ICL value-added resellers. Technology chairman, Derek Lewis, expects sales in the 100s rather than thousands in the first year, but is aiming for between 5% and 10% of the UK Unix market thereafter. Lewis denies there will be conflict with the other Unix systems it offers. He says Technology does not sell Sun Microsystems Inc kit to end users, only sells Digital Equipment Corp Unix boxes on an account-by-account basis and describes the the Data General Corp, Groupe Bull SA and Hewlett-Packard Co lines it has on its books as subsidiary ranges.

...DRS BUSINESS GREW 30% IN 1992...

ICL's mid-range DRS6000 and DRS3000 business grew 30% by value and 73% by volume in 1992 compared with the previous year, generating £340 (\$511m) of revenue, which (including the applications) amounted to some 20% of ICL's overall business last year. Research and development spending was £70m. The mid-range unit has 1,250 staff spread across operations in Bracknell and Kidsgrove, UK; Irvine, California and Reston Virginia in the US; Linkoping in Sweden and Dublin, Ireland. The division has OEM relationships with Fujitsu, Acer Group and C Itoh & Co which sell its kit across the Pacific Rim area, but is keen to sign a major US distributor.

...MIDDLEWARE SOFTWARE BUNDLE...

ManageWare, ICL's new middleware software, available across the DRS range, includes a network system access manager, an on-line transaction processing development environment called Dialogue Manager that can integrate multiple TP services, the Tuxdeo TP manager, a PowerManager for managing networks of OfficePower systems, a range of disk and file management systems, a print manager, and Egshel - an enhanced graphical shell which integrates the windowing Korn shell with ICL's GraphicsPower development toolkit.

...OFFICEPOWER 7

The new OfficePower version 7 comes with Windows, Open Look or Motif front-ends, client/server implementations of for popular personal computer packages, offers connectivity with Microsoft Mail Lotus cc:Mail and ICL's TeamOffice, X.400 mail to UK MHS '88 standards and has a new management system. Meanwhile, with Ingres and Informix already won over to its Content Addressable File Search-derived database Search Accelerator hardware solution, ICL says Oracle Corp has now signed to implement a version of its database for the system, whilst Sybase Inc is waiting in the wings to do the same.

THE PROCESS CHANGE THAT WILL LEAD SUNSOFT BEYOND SOLARIS 2.x

By William Fellows

According to Steve Bourne, now director of ONC+ and network technologies at the company, the process change SunSoft Inc undertook in the development of Solaris 2.x for Sparc and Intel has been one of the company's most important achievements to date. Unlike previous operating system releases, often handcrafted patchworks of technology, Solaris is an assembly of working, tested and quality-checked components, Bourne says. It undergoes some 40,000 tests. The transformation of SunSoft's operating system development into a modern design and production process is not typical of the software industry, but it is a new model for the software business that'll come to predominate, he believes. Investment in the process change was a major component of the overall Solaris development budget. SunSoft claims to have learnt the process from Sun's hardware manufacturing experience, the model for which is at least 10 years ahead of software, argues Bourne. Bourne, creator of the original Unix Bourne shell command interpreter, believes the development of handcrafted Unix operating systems does not lie with inherent diversity of Unix itself, but is a long-term software engineering problem.

Solaris release schedules are another victim of SunSoft's process change, though according to Bourne, one further revision is required to achieve simultaneous, worldwide Solaris releases on Sparc and Intel Corp iAPX-86 platforms (and presumably the IBM/Motorola PowerPC in future too). Bourne says the company will reach its goal with Solaris 2.3, due late this year, or with 2.4, expected mid-1994. In the past, a long list of features due in each new release inevitably meant that release dates slipped (Solaris x86 a case in point?) which won't happen any more, Bourne claims. Now SunSoft has committed to new Solaris releases every six months, the features requirement list for each release closes some six months before the final code specification and release date is fixed. Whatever is ready by that day will be released. "Ship rather than slip," is the way Bourne describes it.

Multithreading

SunSoft has enhanced Solaris 2.0 to release 2.2 for Sparc (although it is not officially calling it that), which should be up on all new systems from May. Some of these enhancements are also expected to feature in Solaris x86 for Intel iAPX-86 machines - the feature-for-feature port of Solaris 2.0 unveiled a couple of weeks ago (UX No 430) - by the time that ships in May. Solaris 2.2 includes a re-write of the kernel using threads to implement enhanced multiprocessing functionality and solve concurrency problems. Bourne says SunSoft invested in multithreading instead of things like security because distributed applications need multithreading in the base platform and Sun sees distributed applications and solutions as the way of the future. The multithreading project was led by Bourne and SunSoft claims a 60% performance boost over previous Solaris versions as measured on an eight-way Dragon. Bourne says the rewrite has now achieved linear performance increases across multiple CPUs running a database. Independent software vendors can use Solaris' C library to develop multithreaded applications from now, though Solaris 2.3 will contain all system layers, says Bourne. Akin to the way Solaris x86 includes a device driver interface, Solaris 2.3 will also feature a KBI interface which'll take care of hardware dependent stuff like cache management, interrupts, temporary states and floating point. Sounds like SunSoft is positioning Solaris to be a completely hardware-independent environment. An Intel version of the multithreading stuff is currently testing on an AST Research Inc Manhattan multiprocessor and is due in 90 days. Solaris Release 2.4 will come with things like PEX and Phigs.

Masterplan

On objects, Bourne says the DOMF - Distributed Object Management Facility - or system call layer, will be the kernel of SunSoft's object stuff (UX No 430). Application services will reside on top, and that's what the majority of software developers will wait for. Although object technology is "a major technical change to the system," Bourne says SunSoft's approach is very different to other efforts like the IBM/Apple Taligent venture or Microsoft Corp's Cairo because they expect reusability and faster time to market as an end result. SunSoft has object technology at the core of its distributed vision and masterplan. Distributed applications will need distributed object functionality built-in and ready to use. "That has to be designed-in and that's difficult," says Bourne, who claims it will ultimately be "the key to SunSoft's success."

IS THE ALPHA CHIP GOING TO SAVE DEC?

By Tim Palmer

We have to wait patiently a little while longer yet to determine whether the new generation Alpha RISC machines have turned Digital Equipment Corp around or whether the company is pursuing the same downward curve as IBM Corp, because the company has still scarcely started shipping the machines in real numbers - but it does not make it clear whether that is a function of supply or demand. Sales for the fiscal third quarter were up 6% at \$3,454m - but that is due mainly to favourable currency translations, and while a third quarter loss of \$30m - down from \$311.3m last time - is a big step in the right direction, it was still slightly worse than Wall Street estimates, and analysts were particularly disappointed with the low turnover growth. Analysts also worry that only 4,000 people were taken off the payroll in the quarter, bringing the total at the company down to 98,100 - they had been expecting that more would leave the company. Total employment has declined by nearly 16,000 since the beginning of the fiscal year. Analysts were encouraged by the company's lower operating expenses - research and engineering spending declined by 19%, and sales, general and administrative expenses fell 8%. DEC says turnover would have been essentially flat without the favourable impact of foreign exchange. DEC said that for the first time in six quarters it generated positive cash flow from operations and investments, even with restructuring activities. The personal computer business doubled year over year, as it expanded its presence in desktop machines, and service revenues grew by 12%. The company said its balance sheet remains strong with a low debt ratio and cash balance of \$1,600m. On the Alpha, DEC said that roll-out of Alpha-based systems continues on schedule but that because it is a major programme, it will continue to take several quarters to implement fully - and rather than talk numbers of machines or orders, the company chose to focus on the people writing for the thing, saying that more than 500 Alpha AXP applications from partners and 50 software products are available today. In total, more than 1,000 vendors are moving more than 200 applications to the Alpha environment. "We are meeting the goals we have set for ourselves in returning Digital to profitability and growth," said president and chief executive Robert Palmer. "We are encouraged by our transformation to a market-driven, customer-focused company. We are confident that our strategy - to provide customers with the best solutions and to provide the best technology in core areas of competence - is the right strategy for our customers, partners, shareholders, and employees," he said. DEC executives said that their outlook for the rest of the year continues to be cautious given the current economic environment, and they declined to forecast profits. Bill Steul, chief financial officer, said that during the third quarter, DEC's US business showed a decline of just under 5%, and that total product revenues were flat, while services grew at about 12% in the quarter. Business was a little soft in Germany and France and continues to be down in Japan, but that there are some signs of improvement in Japan. DEC, in its final quarter of fiscal 1993, does not expect much in revenues from its Alpha-based systems running Microsoft Corp's new NT operating system before next fiscal.

MICROSOFT, COMPAQ TEAM ON EMERGING TECHNOLOGIES

Compaq Computer Corp and Microsoft Corp came together in Washington last week to announce that they have entered into a comprehensive agreement to develop new products and markets and to make personal computers easier to use. Calling the agreement the "Frontline Partnership", they say they will work together to develop an operating system and hardware for easy-to-use systems, adding the sorts of features Macintosh users take for granted, advance personal computer technology with pen interface and audio capabilities - Microsoft is said to be impatient at the lack of applications for its Pen Windows operating environment, and the two will promote "Plug and Play" to make software and hardware easier to integrate and use. Compaq will also back the NT operating system.

SILICON GRAPHICS, GEORGE LUCAS'S MOVIE FIRM TEAM-UP...

Silicon Graphics Inc is getting into the fun-and-games end of the business in a big way and has formed a joint venture with Industrial Light & Magic, a division of George Lucas's Lucas Digital Ltd special effects production company: the new venture will create digital imagery for the entertainment industry. JEDI, the Joint Environment for Digital Imaging, will be based at the offices of Industrial Light in San Rafael, and will combine proprietary digital scanning and film recording technology with an advanced digital production facility, serving the film, television, commercial and attraction industries. The aim is to make Industrial Light & Magic's imagery to become more affordable to the entertainment industry, Star Wars creator Lucas says. The Joint Environment will be linked through digital tie-lines to facilities in Los Angeles and Hollywood and can be delivered via satellite throughout the world so that Industrial Light can deliver broadcast-quality images directly to clients, without distortions of cable transmission.

...SGI "IN TALKS WITH TIME WARNER ON TV"

Silicon Graphics Inc, Mountain View, is not commenting on a report in the New York Times that it is considering teaming up with Time Warner Inc to develop hardware for interactive television. The paper said the companies were discussing building an inexpensive computer derived from the three-dimensional Silicon Graphics R4000 64-bit RISC-based Iris machines used by movie studios to create special effects, which would attach to television sets and make possible a variety of interactive games and other applications. The talks are also said to involve video servers at the transmission end. The cable television industry is said to be leery of handing over a standard to a third party such as Microsoft Corp, which has teamed up with Intel Corp to develop a set-top control box based on the 80386 and Windows; the 80386 is also regarded as underpowered for graphics work.

..AS IBM POWER VISUALISATION KIT ENHANCED FOR MOVIES

Starstruck IBM Corp has teamed up with Boss Film Studios to devise software tools on IBM's Power Visualisation System for key functions in the entertainment industry's evolving all-digital film studio. Areas include compositing - merging images, colour correction, cropping and erasing the strings from special effect sequences. IBM also announced first fruits of another Hollywood alliance, adding integrated digital video and audio input-output and the Moving Pictures Experts Group digital video and audio compression mechanism to the Power Visualisation System. The Digital Compression Facility - which runs at seven to nine frames a second - is designed to shorten the time taken to hours from days of encoding digital movies for rapid decompression in applications such as video-on-demand and CD-ROM recording. It now also has multiple SCSI-2 channel support so that the system can link to a wider variety of disk, tape and other input-output devices.

MICROSOFT "SEEKS WABI LICENCE FEES", MAY DO ITS OWN WINDOWS-ON-UNIX

The betting pool on whether Microsoft Corp will actually sue Sun Microsystems Inc over the Windows-on-Unix WABI application binary interface waxes and wanes - see front page (UX No 431). Close observers of Microsoft say what it's really interested in is the licensing fees it says Sun should pay. If Microsoft decides not to sue - and we wonder if they can decide before WABI is introduced - observers say they will hassle Sun to death. They note that Microsoft is already talking about bringing out a similar product of its own, a typical Microsoft tactic (UX No 431), and will probably create a good deal of fear, uncertainty and doubt over WABI's technical prowess and whether it will be able to keep up with Microsoft's innovations. As a matter of fact, some people think Microsoft will purposely create features that are hard-to-clone. However, there is the school of thought that argues that Microsoft doesn't want to restrict Windows unduly because the more ubiquitous it is the better Microsoft's own position.

TI SAYS IT HAS 50MHZ VIKINGS IN 100,000s PER QUARTER

Texas Instruments says it delivered its 100,000th SuperSparc chip early in the first quarter and is now able to produce 50MHz Vikings in quantities of tens of thousands a month and in hundreds of thousands a quarter. In fact all production is now in 40MHz and 50MHz chips. 36MHz SuperSparcs still available to cloners but the lower cycles will be phased out. TI claims SuperSparc is the highest volume RISC chip in production and is "pretty close" to its 200,000th unit. All Viking chips between 45MHz and 60MHz will be called SuperSparc+ in keeping with the roadmap Sun recently detailed taking Sparc into the 500MHz stratosphere (UX No 427). TI is currently working on the next turn. With TI getting the units needed, the Sparcstations and upgrades are expected to be deliverable this quarter.

JUDGE REFUSES USL PETITION, BSDI FREE TO DISTRIBUTE BSD/386 CODE

Unix System Laboratories Inc has suffered a second setback in its court case against Berkeley Software Design Inc for copyright infringement and misappropriation of trade secrets. In answer to USL's recently filed a petition for reconsideration (UX No 430), Judge Dickenson Debevoise has refused to reverse himself and hand down a preliminary injunction preventing BSDI from distributing its BSD/386 code. USL has now filed an appeal with the Third Circuit Court of Appeals. It will take months for the appeal to be heard, putting all the machinery of the lawsuit in slow gear though discovery will continue. USL did manage to walk away from Judge Debevoise's courtroom with a minor victory: it got him to set the record straight as to how many copies of 32V were actually distributed. The court's decision to deny the preliminary injunction was based in part on the notion that thousands of copies of 32V were disseminated and freely available back in the late 1970s when in fact only about 250 copies were circulated, reportedly on tight contractual terms. According to USL counsel Sandy Tannenbaum, this correction of fact will improve USL's chance on appeal. USL maintains that 32V, which the court previously found was copied in the University of California, Berkeley's Net2 code and again in BSD/386 (UX No 427), required no copyright notice because it was a limited publication. According to the then-prevailing legal opinion, a copyright notice would have tainted its trade secret protections. Meanwhile, BSDI says it has sent out 650 copies of production BSD/386 Release 1.0 code since the judge cleared the way a month ago.

MOTOROLA TO PRICE POWERPC BELOW INTEL

Motorola Inc hopes to capture a broad market for the PowerPC processor by pricing the first versions well below Intel Corp's fastest microprocessors, *US PC Week* reports. Preliminary pricing for the PowerPC, due in volume in the third quarter, has been listed at \$280 for the 50MHz 601 and \$374 for the 66MHz version of the chip in quantities of 20,000 or more, according to sources familiar with Motorola's plans - significantly below the Pentium and the 66MHz 80486DX2, although the Pentium will outperform the PowerPC chips. Systems that use the PowerPC are expected to be priced at from \$3,000 to \$4,000.

WITH COMPILED FLASH BASIC, SQL, DICK PICK'S OPERATING SYSTEM IS BACK IN BUSINESS

By Chris Rose

The latest round of upheavals at the ever-unstable company permitting (UX No 430), at the beginning of May, operating system-cum-database Advanced Pick will finally slide off the fence and land on the database side. In a flurry of announcements that the company plans to make this year, Advanced Pick Version 6.0 will be the first release to become really intimate with the Unix operating system. In later releases this year, the company will address other shortcomings by providing SQL access to the database and a graphical user interface. Versions for Microsoft Corp's Windows NT and IBM Corp's OS/2 2.0 are also in the pipeline, as are new releases of native Pick and Pick for MS-DOS. Pick Systems Inc has recognised for some time that it will have to concentrate on the database side of Pick's personality in order to survive, but currently only around 40% of sales comes from Pick for Unix, with a few percent going to the MS-DOS implementation and the native Intel Corp iAPX-86 implementation accounting for the biggest part of the business.

The new announcements, the product of an apparent frenzy of development work at the Irvine, California company, aim to change that. First off, the company has addressed the question of performance. One of Pick's little idiosyncrasies is that database applications are written in Pick Basic, a superset of the programming language rather out of favour with most business programmers. Leaving aside any general perceptions of Basic, the Pick version was interpreted rather than compiled and consequently didn't sparkle in speed bench tests. Version 6 will replace Pick Basic with "Flash Basic", a compiled version of the language. In fact, it will be compiled twice, says international sales director Greg Shandell. The first pass produces C code, the second pass results in machine code and bench tests two or three times faster than the previous version. The two-stage compiler raises the intriguing possibility of gaining a direct C interface into Pick, but the company is adamant that the use of C rather than Flash Basic would be not only difficult, but also really naughty: "that is not the intention" said one company official, adding "we only mention the C interim step so that people can understand what is going on" - at least until, version 6.1 - of which, more later. Going all the way to machine code may speed things up, but in the process it has added to Pick Systems' implementation headaches.

Acceptable

Previously Advanced Pick has sat aloof, on top of Unix, but now the code has been designed to take better advantage of some Unix facilities, and different versions will be needed for different processors. Nonetheless, Shandell says that by the end of August the company will have versions "for most versions of Unix", by which he means implementations for Unix System V.4, and Motorola Inc's 88open standard plus versions for Santa Cruz Operation Inc, Data General Corp, Siemens Nixdorf Informationssysteme AG and ICL Plc Unices and IBM's AIX. The Data General, Santa Cruz, 88open and RS/6000 versions will appear first, around the end of April, with ICL following around the middle of the year. And look out for an OS/2 and a Windows NT implementation too. Version 6.0 of Pick will not have a very long life, however - by the summer, versions 6.1 will be in beta test. This will, for the first time, enable outside, SQL users to interrogate Pick Databases, making it a more acceptable part of an enterprise computing strategy. In a similar vein, a new set of application programming interfaces and library programs will let C programmers call the Pick system for the first time: until now, Pick programmers could get out to C, but C programmers could not get in. Finally it will be bundled with a Windows-based graphical client, something that Pick has long shied away from, but which it now accepts that is on a number of users' "tick-boxes."

6.1 is the first product to spring from the company's Moscow operation where about 65 staff are unexpectedly housed in offices in the Olympic stadium. As with a number of other computer companies, Pick has discovered that there are brains to be hired that previously worked in academia, the military, government and even the KGB. It is a mix of staff, says Shandell, which also helps get things done when dealing with ministerial bureaucracy. Back at the products, version 6.2 should be entering beta test by the end of the year and, for the first time, Pick should become properly aware of networks and usable across distributed systems. With more and more database engines sitting on networked servers, it has been a long time coming - the tricky bit, says Shandell is implementing "remote queue pointers". Queue pointers are one of the features beloved by Pick aficionados, enabling one database entry to point to another so that the entry in a particular field is actually supplied via a link from another database. A remote queue pointer extends this process so that the supplying database can be situated on another machine on the network.

But perhaps the best example of the Pick System's idiosyncratic development style is happening in the MS-DOS world, where the company is beta-testing multi-user Pick for MS-DOS - to be released later this year. This looks like a rather odd product - there is already multi-user native Pick for the personal computer, and there is single-user Pick for MS-DOS, so is there a market for a version of Pick that will support multiple users, while a person sits on the server and uses MS-DOS? Shandell admits that he is not sure - what happened, he says, is that one of the company's distributors developed a facsimile board for Pick for MS-DOS and requested serial-port support. Pick Systems delivered, and realised in the process that the serial-port support could equally well be used to support dumb terminals. So the company developed it as a product "and we'll see who buys it," says Shandell - but then Dick Pick's company has always been a bit like that.

HITACHI HAS SEVERAL NEW VERSIONS OF ITS DECISION SUPPORT SOFTWARE

Hitachi Ltd has released new versions of its Exceed3 Decision Support system. Exceed3/W-EUR is a version for the Hitachi 3050 workstations, and supports the X Window System and Motif. In terms of function, it supports an end-user forms creation function, under which the user can create his or her own forms using cut and paste and sample forms. A new mainframe version, Exceed3/H builds on the basic functions of the previous version Exceed2/H, providing improved memory support, through 31-bit addressing and re-entrancy. Other new versions of the software provide a simulation analysis - Exceed3/W-SIM, while Exceed3/W-DAI provides links with Oracle Corp databases. Related application products for the analysis of point-of-sale data - MRSAS/PA - and for use by financial institutions - PP-21 are also available. The prices of the new products are from \$3,000 for Exceed3/W-EUR and from \$2,630 per month for the mainframe product.

AMDAHL OFFERS UPTIME CONSULTANCY

Amdahl Corp is offering a new availability management service to customers that need 99% or better uptime from their mainframes. Under the new service, Amdahl's consultants analyse a customer's information services organisational structure, environment, critical business functions, and key applications that require high availability or continuous operation. They then examine four months of outage reports, seeking trends, strengths and weaknesses, and conduct a component-failure-impact-analysis audit to identify single points of failure, ascertain the effect of particular types of failures, and decide methods and costs of mitigating them. Costing \$50,000 to \$75,000, it takes seven to eight weeks to complete.

NCR MOVES FOR NETLABS SOFTWARE

NCR Corp is OEMing NetLabs Inc's new network management technology Overlord for use in its StarSentry product line. The deal is worth \$5m to NetLabs. NCR will develop applications on top of it starting later this year. The software allows multiple users to manage the entire network from any point. NetLabs and NCR will integrate client/server environments, data-oriented internetworks and voice-oriented WANs onto a single management platform, according to NetLabs. The relationship between the two companies goes back three years to when NCR built its Systems Manager product on NetLabs' first-generation product NetLabs/Manager.

NEW FRENCH GOVERNMENT

"WANTS TO GET SHOT OF BULL"

The new French minister of industry, Gerard Longuet, seems anxious to hurry along the privatisation of Compagnie des Machines Bull SA, which has cost the French government some \$2,500m over the last 10 years, according to *Les Echos*. "The [Bull] case figures among the most urgent, even before that of Thomson SA," the article says, citing a source at the Ministry of Industry close to the minister. "Fundamental questions are being posed at the same time about the company itself and about the strategic character of the industry." A Bull spokesman said the company had no official statement and had "perceived no new movement in this area." The ministry source noted several possible scenarios, from the sale of individual divisions of Bull, which would enable it to eliminate unprofitable activities, to the taking on board of new investors, to the complete dismantling of the French computer maker. "The taking of a 5% stake by IBM has resolved nothing," the source said. It is unclear what attitude the new administration takes to Japanese investment, but if it were politically acceptable, sale of a large part, if not all, the company to 4.7% shareholder NEC Corp would make the most sense, although it is not clear that NEC would now be interested. On the positive side, it would secure the only international outlet for its mainframes, and with Zenith Data Systems and Bull Micral, would finally be able to shed its also-ran image in the world personal computer market; on the negative, there would be the threat of re-nationalisation under a new administration.

BETHEL TO MARKET O2 IN JAPAN

O2 Technology SA, the Versailles-based object-oriented database system developer, and Overseas Bechtel Inc have signed a distribution agreement whereby Bechtel will market a Japanese version of O2, the company announced. Yoshie Hashima, director general of Overseas Bechtel in Tokyo, said in a statement, "O2 responds to the needs of the Japanese market for object-oriented database systems, that is very promising - the collaboration with O2 will enable Bechtel to attain a leadership position in the distribution of tools for open systems;" the alliance with Bechtel "is for the long term," said Francois Bancilhon, the managing director of O2.

ORACLE JOINS FORCES WITH OMRON ON FUZZY DATABASE SEARCH LOGIC

Oracle Systems Corp has found a new partner in Japan in the shape of the diversifying point-of-sale terminal specialist Omron Corp, Reuter reports from Tokyo. The two companies will team up to develop database software with fuzzy search capabilities. Omron has already developed a system that it can use on its own Luna Unix workstations, and the joint development effort involves development of a system that can use inference based on vague concepts in a wide range of applications. There is no target date set for completion of the new project.

NYNEX TAKES TIVOLI SOFTWARE FOR NETWORK MANAGEMENT

New York Telephone has standardised on Tivoli Systems' Management Environment for managing the network behind its newly formed Nynex Enterprise Services scheme, an operation to provide metropolitan New York customers with an array of affordable on-demand high-performance high-availability private managed telecommunications network services, a first of its kind. Nynex' Enterprise Control Center uses a distributed network based on some 100 Sparcstations and Sparcservers. New York Telephone says Tivoli will help it get a leg up on the Open Software Foundation's DCE. Applix, AimTech, Box Hill Systems, Bristol Group, HP, Security Dynamics, Synernetics, Paradise Software, Parallax Graphics, QMS, InSoft, Interleaf, Newbridge Networks and SynOptics are also part of the offering.

SERVIO ADDS GEODE OBJECT DEVELOPMENT ENVIRONMENT

At Object Expo, in New York this week Servio Inc, Alameda, California, will preview an enhanced version of its Gemstone object-oriented database, and introduce Geode, an object-based application development environment. Enhancements to Gemstone include improved cache functions, which enable temporary objects to be held in memory rather than writing them to disk; disk clustering and reduced object identification size. Other features include object event alerters and database schema modification functions. Geode comes with a library 480 object classes, including methodology and multimedia data types. Both products will be available from the third quarter.

SHOWTIME!

There are so many conferences and shows scheduled we thought we would bunch some of them together so you can plan your calendar: Object Expo, New York Hilton, April 19-23; Win-Dev, Boston University Corporate Education Center, April 26-30; DB/Expo 93, Moscone Center, San Francisco, May 3-7; Unix Reseller Show, Dallas Convention Center, May 4-6; C++ in Industry, Boston University Corporate Development Center, May 24-26; Comdex Spring/Windows World, Atlanta Convention Center, May 24-28; NeXTWorld Expo, Moscone Center, San Francisco, May 25-27; DECUS, Georgia World Congress Center, June 5-11; Xhibition, San Jose Convention Center, June 7-11; Uniform's Mainframe Downsizing in the Financial Industry, Hyatt Regency Chicago, June 8-10, Grand Hyatt New York, June 15-17; Client/Server World and Database World, Hynes Convention Center, Boston, June 14-16; PC Expo, Javits Center, New York, June 29-July 1; SCO Forum, University of California, Santa Cruz, August 14-19; Interex, Moscone Center, San Francisco, September 19-23.

TOP BRASS FOR OBJECTWORLD

Trying to out-do the star-studded cast it assembled for last year's Object World San Francisco, the Object Management Group has come up with Steve Jobs, NeXT Computer Inc chief executive officer; Lee Reiswig, IBM Corp Personal Software Division president; John Edwards, Novell Inc executive vice president; Bud Tribble, NeXT co-founder and SunSoft Inc vice president User Systems; Rep Edward Markey, chairman, the US House Telecommunication & Finance Committee; Bo Hedfors, Ericsson chief technology officer; Kurt Fischer, Pentagon director, DOD Information and Elaine Bond, Chase Manhattan Bank vice president. This year's show run June 14-16 at the Moscone Center.

XSOFT HAS ROOMS FOR X-WINDOWS

Xerox's XSoft division has introduced Rooms for X-Windows, a new Unix-based version of its project-oriented multiple desktop Rooms for Windows utility software. XSoft is out for high-volume distribution and has cut deals with Qualix and Sun Microsystems to provide the software free-of-charge for an initial 30-day trial basis. Documentation and access to XSoft's technical support can be had for a \$40 registration fee. Rooms works on both Open Look and Motif.

HP AND FILENET TIE KNOT

Hewlett-Packard Co has finalised its agreement with Costa Mesa, California-based FileNet Corp for implementation of FileNet's document imaging and WorkFlo software products on the Precision Architecture RISC-based HP 3000 and HP 9000 business systems and servers. The Image Management Services software, a set of application modules that control the processing, storage, retrieval, and printing of document images, is expected to be available on the computers by the end of the year. The two say they have already begun joint marketing activities in the US, France, Germany, the UK and Australia.

HP TO MARKET INGRES IN EASTERN EUROPE

Hewlett-Packard Co has taken a licence from Ask Computer Systems Inc to distribute the Ingres relational database and application development tools throughout Eastern Europe and the Commonwealth of Independent States. The countries covered by the agreement, which allows for joint sales and marketing activities, include Bulgaria, the countries of the former Soviet Union, the Czech Republic, Hungary, Poland, Romania and Slovakia. Use of Ingres products has been expanding rapidly in Eastern Europe over the past few years through local distributors in the Czech Republic, Hungary, Poland, Slovakia, and Slovenia, the company says, with customers including the Polish Central Statistical Office and the Stock Exchange in Budapest, Hungary.

MAI FILES FOR CHAPTER 11

MAI Systems Corp, now based in Irvine, California has filed for protection for Chapter 11 of the US Bankruptcy Code in a Wilmington, Delaware court. The filing comes despite the company covering key debts by handing its European subsidiaries over to its secured US and Canadian lending banks. The small business systems company, which never recovered from its capricious attempt to acquire Prime Computer Inc, says it needs the bankruptcy protection to put together a plan to restructure its balance sheet.

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As we reported (UX No 426), **Santa Cruz Operation Inc** has now filed for an initial public stock offering. It plans to sell 4.3m shares at a maximum price of \$13 and will use the process for working capital. Underwriters are Goldman, Sachs & Co and Donaldson, Lufkin & Jernette Corp.

Former SCO president Larry Michels has apparently settled out of court with three of the women who charged him with sexual harassment (UX Nos 415, 416). The three reportedly get \$300,000 each on condition they don't talk to the press. A fourth woman has not yet settled.

Hewlett-Packard Co has licensed the Veritas File System intending to offer it with HP-UX. **Veritas Inc** is making the file system, VxFS, compatible with the Distributed File System in the **Open Software Foundation's** DCE. It is also planning to deliver a multiprocessing version of VxFS. HP will be using Veritas as both its base file system and in DCE environments. It will have the multiprocessing version available in early 1994.

In an attempt to double its membership from 6,500 to 12,000, **Uniformum** has arranged for **Santa Cruz Operation Inc** and **Univel Inc** to bundle a free six-month associate membership with their software. The hope is that after getting *Uniformum Monthly* and other services for a time SCO and Univel customers will plop down the hundred bucks it takes to join. **Uniformum** would like SunSoft, HP and IBM to do the same thing.

Uniformum wants a piece of the COSE action too. It's been quietly talking to COSE about helping with the desktop portion, perhaps chairing the committee. According to **Uniformum** executive director Richard Jaross, **Uniformum** had assembled an effort parallel to COSE a few weeks before COSE went public, forming a desktop workgroup manned by the same COSE crew plus other unidentified companies.

Bridgefield, Connecticut-based **Bristol Technology Inc** has its \$5,000 **HyperHelp 3.0** in beta expecting to make it commercially available in May. It adds character-based help for terminals, secondary windows, segmented bitmaps, history path and support for Windows 3.1 help. **Bristol's** SBML Easy!, the **HyperHelp Standard Generalised Markup Language**, is also going into beta, with general release expected in June.

DEC is the first major US computer company to open a wholly owned subsidiary in Romania, its seventh in the old Eastern Bloc.

It's hard to figure out what exactly is happening with **Hunter Systems Inc**, Palo Alto, California, since nobody's returning phone calls. We did manage to find out that its venture capitalist **Technology Funding Venture Partners IV** in San Mateo, California bought back **Hunter's** debt at that auction they staged last week (UX No 431) - presumably no money really changed hands - and now owns all of **Hunter**. The question now is whether it is still in business.

Auspex Systems Inc, Santa Clara, California, will be going public, offering roughly six million shares between \$10- \$12.

Mountain View, California-based, **Clarity Software Inc** which has had its ups and downs (UX No 405), says it's shipping **Rapport 1.9** for HP and Sun boxes running **Motif**. Enhancements include macros, integration of other applications through an API, customisation of its appearance and behaviour, support for HP **OpenMail** and European versions starting with German.

Uniformum is putting out feelers to other similarly minded organisations like **Usenix** trying to stir up some kind of collaboration such as joint memberships and joint symposia. So far it's gotten **Usenix** to manage the systems administration track for next year's show. **Uniformum's** also going to paying more attention to NT at its shows.

IBM supposedly showed off a PowerPC-based personal digital assistant (PDA) at the **Downsizing Japan Expo** recently. Reports say the widget includes a pen-input LCD and a protruding antenna. Supposedly it should hit the market by the end of the year.

ComputerWorld claims those rumours of **IBM** buying **Sun** (UX No 431) was an April Fools stunt pulled by DEC engineers who put out a release on DEC's internal network saying **Sun** had been gobbled up by **IBM**.

There is now a newsletter about the InterNet: *The InterNet Business Journal*, published by the **Strangelove Press** in Ottawa and meant to help people use the Net for business purposes. It costs \$149 for the six annual issues which ironically come on paper.

DEC has named **Gresham Brebach** vice president, systems integration and professional services: **Brebach** was director of **McKinsey & Company's** New York office, a firm that also groomed **IBM's** new CEO. He was previously a managing partner of **Arthur Anderson**.

Unisys Corp claims to have won some 50% of the world's open systems on-line transaction processing business, but still only has around 22 Tuxedo customers on its books, including the **Union Bank of Switzerland**, **Eurodollar car rental**, **La Namur Assurance Co in Belgium** and the **Dutch PTT**. **NCR Corp**, it estimates, has some 10 to 15 customers for **Top End**, while **Transarc Corp's** **Encina** has only just started shipping.

Japan's OSI Plus is peddling a Super OSI said to support OSI protocols one through seven, a world's first. **Hitachi Ltd** is planning to distribute it starting in May and there are reportedly on-going negotiations with **IBM Japan** and **Fujitsu**. The Super OSI plugs into a personal computer to make it an OSI terminal. +81 3 3794-8411

Nine-year-old **BKS Software Inc**, the object database company, has changed its name to **Poet Software Corporation** just like its software. Its also relocated its headquarters from Massachusetts to Santa Clara, California and named **Thomas Woywod**, formerly **Pyramid's** European general manager, as executive vice president, worldwide sales and marketing. The company, where France Telecom subsidiary **C.A.T.** recently took a minority position, is looking for strategic alliances. +1 408 748-3403

Unify Corp founder **Nico Nierenberg** has left the company altogether. He's been spending half his time at venture capitalist **Accel Partners** anyway and may go to one of their other needy software companies.

InterCAP Graphics Systems Inc, out of Annapolis, Maryland, has released **Red-Liner**, software for viewing, marking up and commenting on illustrations and engineering drawing that runs on HP, IBM, DEC and Sun boxes and X terminals. +1 410 224-2926

Hitachi Ltd has begun developing a parallel processor using 200 of HP's 100-MIPS **PARISC** chips. It expects to commercialise the thing in 1995.

Cortex Corporation and **Hewlett-Packard Co** have signed a joint marketing and development pact that will see **Cortex's** **CorVision** application development tool, previously available only on VAXes, moved to its first Unix environment **HP-UX** on an HP 9000 Series 800 server. **CorVision** will be encapsulated so it runs with **HP SoftBench Framework**. Availability is expected later this year. +1 617 622-1900

Customer services management specialist, **Scopus Technology Inc**, has introduced **RemoteTeam**, an e-mail tool that allows users to access software developer's support information off-site. **RemoteTeam** is available now and is priced at \$10,000. +1 415 615 7900.

The Sun printing and imaging arm, **SunPics**, has released **NewSprint 2.5**, a print package which prints PostScript files from Apple Computer Inc Macintoshes, Microsoft Corp Windows, MS-DOS and Sun Sparcstations. It is priced at \$700.

NCR Corp, **Sequent Computer Systems** and **Unisys Corp** are all planning to see that May 17th - "Pentium Day" - is not totally dominated by the PC end of the business. Like just about every other Intel Corp OEM, these companies are bursting to talk about their high-end Pentium systems, but have been forcibly gagged by Intel from doing so: **NCR Corp** was luckier than most in that it got a ten minute portion of the huge Intel presentation at Cebit in Hannover last month devoted to its eight processor Pentium monster, but with the model number carefully taken off.

The UK's **Solutions with Workstations Show** at London's Olympia between May 11th-13th will be a good chance for the UK and Europe to catch up with the latest COSE developments: **Peter Idoine** of **IBM**, **Steve Raby** of **Sun** and **Mike Shelton** of the **Santa Cruz Operation** will hold interactive sessions on COSE at 11am on each of the three days of the Show.

Sun Microsystems Inc hopes to get one of its workstations on **BBC1's Tomorrow's World** science television programme in the UK this Wednesday. Oklahoma State University's **Dr Marvin Stone** has developed a handheld device dubbed "the thumper" which can measure the ripeness of a watermelon by delivering a blow to its skin. Sparcstations can put up a colour map indicating the ripeness of a field of watermelons from data downloaded by the thumper.

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LOW YIELD PUSHES PENTIUM DELIVERIES BACK TO OCTOBER

Intel Corp's fabled Pentium chip is experiencing another round of serious delivery problems because of low yield. The company is out telling run-of-the-mill customers not to expect any real deliveries until at least October. Until then, the limited supplies of Pentium the company can muster will be going to Intel's pet companies worldwide, a short list believed to include AST Research Inc, Compaq Computer Corp, Dell Computer Inc and NCR Corp. IBM Corp and Sequent Computer Systems Inc are possibly on it too - Siemens-Nixdorf Informationssysteme AG is helping with the chip so may also be in the line up. However, even deliveries to these firms are expected to be severely truncated. Sources say Intel now figures it won't be able to ship them more than 2,000 or 3,000 apiece before October, a third of what had been projected before (UX No 418). Most of the silicon in these shipments will likely be 60MHz Pentiums, not the 66MHz parts Intel has been shooting for. In order to forestall third-party Pentium development from screeching to a halt, Intel is prepared to supply a relative handful of parts to support on-going projects. These parts may not even be 60MHz. Intel is believed to have changed the "recipe" it uses to fabricate the hard-to-build chips and won't know until the autumn whether the process actually works. Intel carefully skirted the issues of Pentium's price and delivery at its ostensible introduction last month.

DEC DELIVERS WORKSTATION BROADSIDE...

As expected (UX No 432), Digital Equipment Corp last week wheeled out three new members of its Alpha AXP RISC-based workstation family, claiming they are respectively the fastest Unix workstations available for under £5,000, £10,000 and at any price. The 64-bit machines are pitched aggressively at competing offerings from Sun Microsystems Inc, Hewlett-Packard Co and IBM Corp. The low-end DEC 3000 Model 300L desktop uses a 100MHz Alpha CPU and is rated at 44.9 SPECint92 and 63.3 SPECfp92. It comes with from 32Mb to 64Mb RAM (256Mb by the end of the year using 16Mb DRAMs) and is available as a diskless system or configured with 426Mb storage, with HX8Plane two-dimensional graphics. A diskless model with a 17" monochrome screen lists at £4,900 (\$4,995) £5,300 with 426Mb disk - or £6,500 with a 16" colour screen and 426Mb disk. DEC is pitching the diskless system against Sun's SparcClassic, HP's 715/33 and the IBM RS/6000 M20. However, whilst DEC's diskless, monochrome 300L offers some 70% better integer performance than any other \$5,000 box, the SunClassic remains the only workstation configured with a disk and colour screen for under \$5,000. DEC's desktop Model 300 uses a 150MHz Alpha part and is rated at 66.2 SPECint92 and 91.5 SPECfp92. With 32Mb to 62Mb RAM (again, 256Mb by year-end), it is priced at £9,700 with 1Gb disk, a 19" monochrome screen and HX8Plane graphics. With a 16" colour screen prices start at £9,995 (\$9,995) a 19" colour system is £11,950. DEC compares this system with the SunClassic LX, HP 715/50 and RS/6000 355. The high-end deskside Model 500X uses a 200MHz Alpha - initially the 0.75 micron EV-4, the 0.68 micron EV-4S by the summer - CPU and is rated at 110.9 SPECint92 and 164.1 SPECfp92. Described as the world's fastest uniprocessor workstation it comes with from 64Mb to 256Mb RAM (1Gb by the next quarter using 16Mb DRAMs) and up to 4.2 GB disk. With 64Mb memory, 1Gb disk, 19" colour screen and two-dimensional graphics it is priced at £39,000. With 96Mb RAM, 2Gb disk, 19" colour screen and HX8Plane, PXG three-dimensional graphics, prices start at £47,600 - \$70,000. DEC sees HP's 755 and IBM's Model 580 as nearest rivals for the 500X. All three systems are available from May 1st and come with a two-user licence for OSF/1 1.2, Motif and TCP/IP or Open VMS Alpha AXP base licence, Open VMS one user licence and NAS 250 licence. DEC claims 100 applications up on its OSF/1 implementation now. A further 400 are promised within six weeks, whilst a total of 2,000 are now committed, it says. PixelVision, a three-dimensional graphics subsystem is due later this year. A level one implementation will cost £5,000, level 2 is £12,000. Also coming on stream is Kubota Pacific Corp's Alpha-based Denali graphics subsystem. Existing DEC 3000 workstations are the mid-range models 400 and 500.

...OUTLINES ALPHA FUTURE

DEC has also previewed future plans for its Alpha AXP RISC in a roadmap which describes increased clock speeds and further superscalar enhancements. Development will continue on very high-performance Alpha iterations, and the chip will also appear in more integrated desktop versions as well as in 0.35 micron, 2.5 volts implementations for portable computing. New systems and upgrades are planned around the next EV45 Alpha release due in September which will go to 250 SPECmarks89. As well as faster, smaller versions of the existing 21064 part, there will be a second-generation 21164 line - EV5 and EV56 - that'll start out on the road from 200MHz to 300MHz. They'll go to 500 SPECmarks89 and are due a year after EV45 and into 1995. A third generation, 300MHz part called EV6 is slated for 1996 that will utilise up to 30 million transistors and reach 600 SPECmarks89. Integrated version of Alpha with PCI bus and on-chip memory controllers will debut as the 21066 series.

**RED BARON MAY BE MICROSOFT'S
ANSWER TO SUN'S WABI**

In the latest twist in the increasingly pivotal emulator market, SoftPC house Insignia Solutions Inc, Mountain View, California, has taken a 10% minority piece of Bristol Technology Inc. It caps a deal that's been brewing for some time for the pair to co-develop products this year that let Windows applications run on Unix desktops. The project is already underway and is apparently focused on the speed at which programs run. Bristol calls it "Red Baron" after Snoopy's nemesis in the Peanuts comic strip. "Snoopy" in Unix argot was of course the original code name of WABI, SunSelect's imminent Windows-on-Unix entry from its Praxsys Technologies Inc acquisition. Bristol and Insignia apparently intend to combine their respective technologies so that Bristol's source-level Windows-on-Unix application programming interface product Wind/U will run binary Windows applications. Insignia's SoftPC runs 16-bit binary MS-DOS and Windows programs on Unix. Sources say Bristol and Insignia cannot be too specific about the nature of their collaboration because they are currently still working out techniques which could change. Microsoft Corp chairman Bill Gates' threats to make life miserable for WABI by bringing out competitive products of his own (UX No 432), are believed to involve Bristol and a Microsoft license to Wind/U which could happen in the next few weeks, though nothing has been signed. Insignia, which Microsoft's Windows NT is using to run 16-bit MS-DOS and Windows applications, will apparently be the other - binary - rock Microsoft throws at WABI. With Microsoft in its corner and actual Windows code under its hood, Insignia would not face the problems Sun faces keeping current with Windows development. Insignia declines to comment on whether it has licensed Windows source code, though one Insignia insider said the company has had a Windows license for two years.

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SUN SHIPS 90,000 SPARCS IN THE QUARTER, BUT PROFITS SLIDE 16%

Sun Microsystems Inc has reported third quarter net profits down 15.9% at \$51.7m on turnover that rose 19.9% at \$1,141.3m. Net profit for the nine months slumped 40.6% at \$80.6m on turnover that rose 16.5% at \$3,048.1m. Net earnings per share fell 22% to \$0.60 in the quarter, 42% to \$0.77 in the nine months. The company said it shipped over 90,000 Sparc processors during the quarter, 57,000 of which were systems, the balance being upgrades and multiprocessors. SunSoft Inc distributed 136,000 Solaris and Unix licenses, 116,000 of them Solaris 2. Distributed Solaris 2 licenses now total nearly 250,000, it said. Sun says it has shipped nearly 45,000 Sparcstation 10s and over 13,000 MicroSparc-based desktops. Sun attributed its profit drop to gross margin declines due to a heavier mix of upgrade shipments (specifically to Models 30 and 41 because it couldn't deliver its more powerful systems) and increased shipments of non-systems components such as memory and storage. It also experienced weakness in France, Germany and Italy. As a counterpoint, Sun has been controlling headcount and spending, shaving 2% to 2.5% off G&A. Revenues per employee has risen above \$300,000 for the first time. Sun claims it has no evidence of the much-rumoured incursions of competitors, especially Hewlett-Packard Co, onto its turf. Commenting on the rather storm-damaged third quarter figures, Sun Microsystems Inc chief financial officer Kevin Melia said "profitability was below the year-ago level due to gross margin declines that were partially offset by tightly controlled growth in operating expenses. The gross margin percentage declined from the prior-year quarter due to a heavier mix of upgrade shipments, as well as increased shipments of non-systems components such as memory and storage. We also experienced weakness in several European countries. However, our continuing commitment to control headcount and spending enabled us to increase turnover per employee above \$300,000 for the first time, and reduce our operating expenses as a percentage of revenues."

...SOLOMON AND GOLDMAN SACHS DOWNGRADE SUN STOCK

A bad day at Black Rock: both Solomon Brothers and more importantly Goldman Sachs have moved Sun stock off their recommended buy lists. Basically Goldman thinks Microsoft Corp's Windows NT and Intel Corp's Pentium are going to be more than Sun can handle, hurting Sun's ability to improve earnings on a sustained basis over the next year or so and impeding its gains in market share. Goldman believes Sun's financial model may need to change more quickly than the company can realise. The long-term judgment is based on Goldman's view of Sun's business as 80% to 85% client side where it thinks Windows, especially NT, will dominate in client/server systems, even where high-performance client products are needed. PS: Goldman currently thinks NT will ship in July.

INTEGRIX EXPANDS SPARCSTATION 10s

Integrrix Inc has introduced the \$1,900 double-decker SEC160, the first Sparcstation 10 form factor expansion chassis. It can add six externally accessible master/slave SBus slots to any Sparc machine, especially the 10, LX and Classic, via a single-slot adapter. Four SEC160s can be added to a workstation for a maximum of 24 SBus slots. Each SBus card has a full claim to the 32MB address space available. All six slots can be filled regardless of their address requirements. Integrrix says the SEC160 makes the Sparcstation 10 useful as a large department server. It requires no device drivers.

OPUS HAS NEW PC SPARC BOARD

Opus Systems Inc has announced the SparCard 2+, its next generation Unix-on-a-PC board, offering 25% performance improvement over its predecessor, the SparCard 2. SBus performance has also reportedly been increased 25%. The 50MHz SparCard 2+ single board computer delivers 35.6 MIPS and is designed for PC-based OEMs and systems integrators needing additional processing power for their embedded Unix systems. PC performance is said to be unaffected by the card. The SCD-compliant board includes a maximum 64Mb SIMM, on-board Ethernet, SCSI connectors, two SBus connectors, two serial ports, an audio port and AT interface. It supports Solaris 1.1. Pricing starts at \$5,000 with deliveries in June.

NETWORK APPLIANCE TO OFFER NFS SERVERS

Year-old Network Appliance Corporation, a Santa Clara, California start-up, this week will attempt to create a new class of file servers with the introduction of its first product, FAServer, a file server *appliance* designed for Network File System networks. The company claims the single-function file server is faster, easier to use and administer, more reliable and less costly than today's Unix-based file servers. According to NAC, FAServer is the first implementation of a new direction for network file servers called file server appliances. By focusing on a single service, an appliance can be made easier to use and can be optimised for performance. With reduced complexity, reliability is increased. By removing general-purpose capabilities and associated hardware and software, cost is reduced. Apple's laser printer and Cisco Systems Inc's dedicated router are other examples of the notion, according to NAC president Michael Malcolm, founder of Canada's Waterloo Microsystems Inc, now part of Hayes Microcomputer. Research by Dataquest and Technologic Partners indicates 70% of the networked Unix servers (and 80% of NetWare servers) are used as dedicated file servers, stripped of applications by their administrators to improve performance. The evidence suggest a ready-made market for stripped-down "appliances." The company, now eight strong and seeded by an impressive array of private investors from the industry, is initially targeting the \$2bn mission-critical Unix/NFS niche since it is financially bigger though numerically smaller than Novell Inc's. Novell and Apple Computer Inc could follow.

Executive roll-call

NAC has got its machines to beta on less than \$1m, its initial \$1.4m coming from the likes of Autodesk chief executive officer Carol Bartz, ex-Digital Equipment Corp engineering vice president Gordon Bell, former Sun Microsystems Inc president Owen Brown, former Microsoft Corp president Mike Hallman, former NetFrame chief executive officer David Hanna, Tandem Computer Inc co-founder Jim Katzman and Mips Technologies Inc co-founder Skip Stritter among others. It expects to get venture funding of \$2m-\$4m over the summer when it will start shipping. Primarily it thinks of itself as a software concern. Its FASware software includes a proprietary 80,000-line real-time kernel and an all-important Write Anywhere File Layout (WAFL) file system designed from the ground up to handle files up to 4Gb and requiring no disk partitioning, a traditional Unix nightmare. Unlike traditional servers, said Malcolm, FAServer optimises writing performance enabling every write to the disk to go into a free block regardless of location. It is constrained only by Ethernet. Space is increased by adding disk drives. NAC has also created its own RAID manager to optimise performance. An on-line Snapshot backup facility automatically keeps up to 20 logical copies of the entire system on the RAID disk array and can be used to make tape backups. Also included are a SCSI disk driver, NFS and TCP/IP protocols and an Ethernet driver. NAC says the system takes only 30 minutes to install, 30 seconds to reboot and its documentation is only 30 pages. It is said to be easy to upgrade and service because it's based on standard uniprocessor 50MHz 80486 EISA bus hardware. The hardware includes a maximum of seven internal 1GB 3.5-inch floppies. Compared to Auspex Systems Inc, where its technical people come from, it says preliminary LADDIS benchmarks indicates a response time of 7ms versus 21ms and a throughput with 2 Ethernets of 415iops versus 466iops at a price of \$37,000 versus \$200,000. Compared to a Sun Sparcstation 10 it did 130Mb NFS writes at 158 seconds versus 971 seconds and reads at 130 seconds versus 144 seconds. The product is expected to sell from \$17,000 to \$30,000 when available in June. NAC expects to push it through VARs, systems integrators and distributors in the US and through OEMs and distributors in Japan and Europe including C Itoh.

NEW VIDEO CONFERENCING SOFTWARE FOR SPARC

Paradise Software has a new \$995 single-user TCP/IP-based stand-alone video conferencing software for Sparc boxes fitted with Parallax's XVideo-24SVC SBus board. An NIS Domain license goes for a one-time fee of \$25,000. The company says video or a maximum 640 x 480 pixel rectangular region of the screen can be sent in near real time. Users can reportedly adjust frame speed, image quality and window size, giving them control over how much data is sent over the network. Video messages can be recorded to the hard disk and forwarded via the Unix mail subsystem to parties who cannot attend conferences. +1 609 275-4475.

IBM PROMISES AD/CYCLE BY MID-1994

Announced way back in September 1989, IBM Corp is finally promising to have a completed version of its AD/Cycle CASE-based application development environment completed by the end of the year and ready to ship to end users by the middle of 1994. The all-embracing AD/Cycle combines a set of standards and interfaces to speed up application development. The object-oriented framework will support support IBM System Application Architecture platforms as well as its AIX Unix systems (UX No 323). AD/Cycle comprises a view of the application development lifecycle, methodologies and tools to support the lifecycle plus software services such as languages for application development. Each tool can support one or more phases of the development lifecycle. AD/Cycle components include Information Model, which provides a common description of how data should be presented and used by tools. Also included is a set of workstation services - common routines used by tools and interfaces - library services, including a configuration management and application generator and a repository, which stores and manages the transformation and exchange of data (UX No 354). Unix/AIX support will provide AD/Cycle developers with a common user interface - such as Presentation Manager or Motif - and task management services, which insulate the user from the details of tools within the framework. Other features include a message server network which controls the distribution of data among tools and services. Data integration services, support syntactic and semantic data descriptions, a data repository that maintains and manages data entities as well as objects and the relationship between them. IBM is also integrating parts of Hewlett-Packard Co's SoftBench technology into AD/Cycle to provide a data control tool. AD/Cycle will be Open Software Foundation Distributed Computing Environment- and Object Management Group Common Object Request Broker Architecture-compliant. It says AD/Cycle development kits will ship in the fourth quarter. Meanwhile, to garner further third party support for AD/Cycle, IBM has signed BMW affiliate Softlab GmbH, Munich, Germany, to its International Alliance programme which now has eight members including KnowledgeWare Inc, Micro Focus plc, Sapien Software Inc, Digital Inc, Easel Corp, Viasoft Inc and Synon Inc. All will bring their respective application development tools into line with AD/Cycle.

ARRAY OFFERS SUMO AT HALF SPARC 2 PRICE

UK systems integration specialist turned Sparc compatible builder, Array Technology Ltd, Camberley, Surrey, has introduced its Sparcstation 2 system. Sumo is less than half the price of an equivalent Sun box, runs Solaris 2.1 and comes with support for up to 64Mb RAM, three SBus slots and a Sun equivalent GX graphics accelerator card. Other features include an Ethernet interface, support for two internal and one external SCSI II drives, two serial and an audio port. Sumo is priced at £2,400, the Sparcstation 2 costs £5,200. Sumo will be sold to VARs only. Array uses a UK subcontractor to manufacture the things. The firm, which originally used Sparcstations to design systems integration solutions, expects clone sales to boost its revenues by 50% from £3m last year to £6m this year. Array's sales and marketing manager, Paul Barwick, claims it has sold 50 systems since March and expects to sell 600 by the end of the year - it plans SparcClassic and Sparcstation 10 compatibles by the end of the year.

INGRES LAUNCHES INGRES/ENHANCED SECURITY

Ingres Corp is claiming a world first for its Ingres/Enhanced Security relational database, which has picked up an Information Technology Security Evaluation Criteria E3/F-B1 security rating. ITSEC is the classification used by in the UK, France, Germany and the Netherlands. Ingres reckons that its rating is comparable with a US Department of Defense Orange Book B1 Trusted Database Interpretation rating. The company is still waiting in line for US certification - as is every other database vendor. The fact that the UK launch presentation attracted around 260 people from the Ministry of Defence and around 10 from commerce indicates the potential market, and in fact the first customers for the product come from the military. Enhanced Security features may even become an optional part of the standard Ingres database in the release after next. It says making Ingres secure involves only around a 3% addition to the product in terms of code. The additions bump up the mandatory and discretionary access controls, give each piece of data held a security level label and implement the sophisticated system auditing capabilities that the certification requires. It is the maintenance of these audit logs that generates most of the system overhead according to the company; at the most basic level the extra security imposes a 2% to 3% speed reduction, but as the system records become more complete, this rises. Though the Enhanced Security product is the culmination of a five-year development effort, the company says that the really tough part was providing the documentation and analyses to convince UK testing house Secure Information Systems Ltd that it had actually done the work. The secure version of the database is initially available for DEC's security enhanced VMS and SunOS CMW operating systems.

SUN OFFERS NEW MULTIPROCESSORS, CUTS SPARCSTATION 10 TAGS

In the name of multiprocessing-on-the-desktop, its new buzzword, Sun Microsystems Computer Corporation last week went ahead as expected (UX No 432) and unveiled its latest Sparcstation 10s. The additions include what it calls the fastest volume desktop on the market, the high-end Model 512MP, as well as the industry's lowest cost multiprocessor, the new Model 402MP. SMCC also cut prices on Sparcstation 10 models 41, 52 and 54 by up to 21% and up to 25% on the model 30, which is now \$14,000. The 41 is down to \$22,745, the 512 \$33,745 and the 54 \$45,745. (In last week's Unigram issue we said to expect price reductions of around 40%. We should have said price/performance). Sun found out immediately before it was due to announce the new boxes that it would not be able to deliver four-processor TAB-packaged 50MHz SuperSparc modules in volumes by this summer. That belated discovery caused Sun to cancel the intended roll-out of the expected 514 (UX No 432). That machine has now gone back to being called the Model 54 and will appear as a 45MHz TAB-packaged four-way, as it was meant to at one time. The dual processor 512, once called the Model 52, however, will come out with 50MHz chips which perform at 65-68 Specint92 and 80-85 Specfp92. Sun has added the Model 402MP, the industry's cheapest multiprocessor at \$24,745 featuring a dual 40MHz CPUs, 36Kb on-chip cache per CPU, 32Mb main memory and 1Gb storage. It also has a new entry-level desktop configuration, the 30LC, that it calls the lowest cost multiprocessing-capable machine available at \$16,000. It includes a 36MHz CPU and an upgraded 16-inch mid-range colour monitor. The Model 40 is a single 40MHz CPU with 36Kb on-chip cache per CPU, 32Mb main memory and 1Gb storage for \$20,745. Shipments of all models begin this quarter. UK prices have not yet been set, they should be out this Wednesday, the company assures us.

COSE TO SET OUT ITS CASE AT XHIBITION

It sounds like the next public outing for the COSE crew could be at Xhibition, June 7-11 at the San Jose Convention Center in California. COSE will be doing an executive panel on distributed computing supposedly fleshing out OSF's Distributed Computing Environment versus Sun Microsystems Inc's ONC+ versus a COSE hybrid for developers and presumably tackling issues such the proposed COSE-compliant Motif and whether the application programming interface will stick. COSE has also agreed to do a plenary-style panel a la Uniform that should attempt a general statement of intent, an update and hopefully try to clear up the COSE confusion - see back page. Lastly it'll be doing a session on the desktop, defining the components and again hopefully taking us past its St Patrick's Day position. Apparently the un-group is getting skiddish about its voice being heard at Comdex Spring over the din the Big Green Machine, Microsoft, will be making.

Meanwhile, Xhibition has rounded up three keynotes: DEC's vice president of research Sam Fuller will be speaking on "Unix and Microsoft Windows NT, Friends or Foes?"; Novell's connectivity vice president Robert Davis will talk about "Trends in Network Computing" and the issues raised for PC-LAN and Unix integration caused by Novell's acquisition of Unix; and Microsoft's Corporate and Network Systems Business Unit group product manager David Thacher will talk about Windows NT.

NOVELL BIDS \$26m FOR FIRM WITH INTRIGUING SOFTWARE

Provo, Utah-based Novell Inc is making another infilling acquisition with definitive agreement to acquire Software Transformation Inc, Cupertino, California for 800,000 new Novell shares, valuing the company at some \$25.8m. Software Transformation's technology provides a framework of software programming tools that is claimed to transcend differences in graphical user interfaces and varied operating system characteristics such as memory allocation and file systems so that applications need be developed only once to run on a variety of systems - currently Apple Computer Inc's Macintosh, Microsoft Corp's Windows, Novell and Univel Inc's UnixWare and Unices from Digital Equipment Corp, Hewlett-Packard Co and Sun Microsystems Inc, with versions for OS/2, AIX and NT on the way. The basis is a standard set of application programming interfaces and object classes to provide an application framework across the major operating systems. The tools are designed to provide developers with a superset of features from the varied operating systems, so that they gain the value of unique operating system characteristics, yet still deliver portable applications - for example, a common programming interface set enables a programmer to write a single application that supports the Macintosh, OSF/Motif, Presentation Manager, Windows, or future graphical user interfaces. The Universal Component System application development environment has been shipping since March 1992 at \$3,500 to \$10,000.

WHO IS NUMBER ONE WORLDWIDE IN WORKSTATIONS? IT DEPENDS ON WHAT YOU MEAN BY THE TERM

By William Fellows

According to International Data Corp, the worldwide market for workstations grew by 9.9% to \$9.54bn in 1992. Digital Equipment Corp's share of this market declined 14.5% in revenue and 3.6% in volume terms over the previous year, to \$1,059m. Sun Microsystems Inc, Hewlett-Packard Co and IBM Corp all grew their shares over the same period. Sun workstations accounted for \$3,625m - a 38% share - HP had 17.4% - \$1,660m - and IBM 7%, or \$668m. The figures imply that up to 80% of Sun Microsystems Inc's total revenue was derived from workstation sales alone in 1992 - though Sun claims to have sold some 10,000 server systems in the last year or so - while IBM Corp's \$668m share is only around a third of the business it claims to have done on the RS/6000 line over that period.

Definitions

The apparent discrepancy is due to the way IDC defines the workstation market. Its workstation figures include sales of server systems that are dedicated to workstation environments, tools and utilities software such as operating systems, compilers, software engineering tools and graphics libraries, certain peripherals - such as personal computer co-processor boards and laser printers - service, maintenance, custom consulting and systems integration fees. Specific requirements are that Unix or VMS is usually the primary operating system and that primary distribution is via direct or OEM sales to technical markets. Technical requirements include virtual memory, the inherent ability to connect to a distributed network and run two- and three-dimensional graphics applications, 3 to 40 MIPS of integer performance, 1,024 by 1,024 pixel resolution, 14", 16", 17" or 19" monitor, multitasking and a price range of between \$3,900 and \$100,000 plus. Systems that do not meet IDC workstation criteria include the Compaq Deskpro, IBM's PS/2 - whether running DOS, OS/2 or AIX - and Apple Computer Macintosh II whether running MacOS or A/UX. They are considered high-end personal computers and single-user systems. Additionally, workstations that meet the criteria, but only run one vendor's software and are sold exclusively as turnkey systems for one or more applications - such as the Computervision CADDstation - are not included. OEMed workstations from the likes of Mentor Graphics Corp, Valid Logic Inc, Control Data Systems Inc and Siemens-Nixdorf Informationssysteme AG are also not included, nor are board-level components, multiuser systems that act as hosts to two or more terminals like the VAX 11/780 and IBM 9370 or parallel processing systems - or even the ICL plc DRS6000.

Traditional

Sun's traditional association with the scientific and technical workstation community means most of its installed servers - and associated software and services - fall into IDC's workstation bracket. The majority of IBM RS/6000 servers however, are installed in commercial environments, or are linked to systems which do not meet IDC's technical criteria for workstations and are therefore not counted in workstation market figures, the Framingham, Massachusetts research outfit says. The same applies to related RS/6000 software and services. Given that IDC's definition of a workstation market includes both Unix and non-Unix environments, it means Microsoft Corp Windows NT boxes which meet the technical criteria will be included in future surveys.

Greater

According to IDC figures, DEC took a 15% - £52.5m - share of the £350m UK workstation market last year. That includes workstations configured with VMS and Open VMS as well as Unix - few if any Alpha models would have been included in the figures. The total is slightly up on 1991 when DEC sold a total of 5,225 workstations in the UK worth £47.9m - 3,855 of which were VAX/VMS workstations worth £33.1m, against just 1,470 Unix systems valued at £47.9m. When finally broken down, DEC's 1992 figures are likely to show that an even greater percentage of its workstation business was carried out on VAX/VMS than in 1991. Like DEC, IBM took a 15%, £52.5m share of the 1992 UK workstation market, HP accounted for 11% - £38.5m - Sun took the lion share with 41% or £143.5m, whilst other vendors accounted for 18% - £63m. DEC claims its UK workstation business will grow at a compound annual rate of 2% or 3% for the next few years, and ambitiously predicts it will overhaul Sun to become market leader by 1995/96. According to DEC, Sun's market share will dip to 30% within three years because of Sparc "performance problems."

DEC is the *only* vendor in IDC's report that derives significant revenues from sales of non-Unix workstations. IDC says DEC's own forecast of 2% or 3% compound annual growth in its workstation business is a tad conservative for a company that claims to have launched the world's fastest workstations. It believes DEC is more than capable of meeting its goals at the top end of the market - in the same way that Hewlett-Packard Co and IBM Corp capitalised on the performance of their respective HP 9000 Series 700 and RS/6000 lines when they were introduced. Even though "OSF/1 is a strange strategy," IDC says users at the top-end of the market are less interested in what operating system their boxes run than what the box can do. DEC hasn't yet said which Alpha systems will run Microsoft Corp's Windows NT operating system it has picked up, but the workstation range looks to have the most likely candidates. With Windows NT on Alpha and Mips RISCs - plus other RISC developments in the industry - DEC expects Intel Corp's dominance on the desktop to meet with some serious competition. It sees the RISC share of desktop market climbing from 15% now up to 25% by the mid-90s. Projections of up to 20 million Window NT shipments by 1995 are around half what DEC is forecasting.

OPEN VISION STARTS-UP FOR SYSTEMS MANAGEMENT

Next week, a new start-up, Open Vision, is going to formally reveal its existence. Its backed by \$25m venture capital, has 100 employees and seven offices including one in Canada. The company reportedly has 15 systems management packages, which it got in some cases by acquisition (Fusion for example), covering such items as operations, performance, security and storage architected for client/server so they will supposedly support OS/2, Windows NT and Presentation Manager clients. It is said to work with the Tivoli Systems Inc management environment, HP VUE and IBM NetView. Unix System Labs and Open Software Foundation presidents Roel Pieper and David Tory are supposed to turn up at the roll-out in New York with signed technology exchange agreements in their hands. The general manager of HP's Network and Systems Division Robert Hoog and SHL Systemhouse president John Altman are also supposed to be on hand along with a representation of X/Open whose systems management workgroup interestingly enough is now charged with determining COSE's systems management technology (UX No 431). Speaking of cozy, Open Vision's senior vice president of technology, Asa Lanum, in a former life was instrumental in X/Open's founding. He apparently reports to Open Vision chief Michael Fields, ex-president of Oracle USA.

PENCOM HAS NEXTSTEP 486 DEVICE DRIVERS

Pencom Software Inc has kicked off a programme to rapidly prototype device drivers for NextStep 486 to help hardware and peripherals vendors get up and running for NextWorld next month. The drivers, said to go for a small fixed-price fee, will be delivered in a binary-only distribution and are not covered by a warranty or maintenance agreement. The products can be fully developed later for an additional charge. The deadline for scheduling development is May 15. The software may not be sold. The programme is targeted to launch Pencom's object-oriented driver development business. +1 512 343-6666.

CONCURRENT GEARS UP FOR MIPS R4400 SYSTEMS

Concurrent Computer Corp, Oceanport, New Jersey has launched a Series 7000 Investment Protection Programme under which its customers can buy and install a new Series 7000 system and then order the compatible upgrade to the next generation system, which will be introduced later this year. Customers would have to pay only the difference between the price of the Series 7000 System and the new-generation system, which for a low-end system would be minimal. The planned R4400-based system will be one of the first available system implementations of the highest performance line of RISC chips developed by Mips Technologies Inc, Concurrent claims. It'll run the same RTU Real-Time Unix as the existing models. Series 7000 systems range from \$14,000 to \$70,000.

APPLE MAC DESTINED FOR A RANGE OF CPUs

The *Wall Street Journal* has now picked up on that story we reported last month that Apple Computer Inc and Novell Inc are working together to build the Macintosh System 7.1 look and feel atop Novell's MS-DOS-compatible DR DOS to run on Intel Corp iAPX-86-based machines (UX No 429). It suggests either that Apple and Novell only would market the software with Intel-based machines, or that other manufacturers would be licensed to sell machines bundled with the software. Enabling Mac applications to run on the Intel architecture would be a major task, and it is suggested that the pair may look primarily to the base of Windows applications because while software emulation is feasible, the only efficient way to run Mac applications would be to include a 68000 co-processor. At next month's Apple developer conference in San Jose, California, Apple, IBM Corp and Novell Inc are expected to unveil Exemplar, an alternative to the Microsoft Corp object-passing Object Linking and Embedding (OLE) specification 2.0. Exemplar, which has only been in development since the beginning of the year (UX No 423), will be used for creating, storing and retrieving application objects across multiple platforms and networks. In comparison, OLE creates compound documents on a Windows- or Macintosh-based computers. Exemplar will include Object Management Group standards and other internal technologies. Taken in conjunction with Apple's move to offer Mac Application Services software on the PowerPC RISC and IBM RS/6000s, plus the Cat-in-the-Hat software for putting Mac up on other RISCs - which the firm is now trying to figure out how to introduce - it seems like Apple is getting ready to spread its crown jewels around hardware architectures. It's also no secret that at Apple's developer conference on May 9th Echo Logic Corp's binary-to-binary FastPort translation tool will be debted, the stuff used to do the Mac Application service port to PowerPC (UX No 427).

SCO UNDER FIRE FOR GOLDEN HANDSHAKE

On the threshold of going public, The Santa Cruz Operation Inc is now catching flak for paying co-founder Larry Michels a \$354,000 golden handshake after he was forced to leave the company in December because of sexual harassment charges (UX No 417). The *San Jose Mercury News*, which reported the story last week citing documents filed this month with the US Securities and Exchange Commission, noted that it was unclear whether the settlement was triggered by an existing employment agreement or was offered by SCO in an attempt to get the case out of the way so the stock offering could be pursued without controversy. The paper quotes an irate lawyer, accustomed to representing women pursuing harassment claims and incensed over the double standard, as saying SCO could have terminated him for misconduct, employment agreement or no, and paid him nothing. "This shows the company didn't learn anything from this lesson. It's absolutely outrageous." The SEC filing indicates Michels, whose SCO shares would be worth around \$51.1m with the offering, is receiving \$16,667 a month in salary until June 1994, a total of \$300,000, provided he doesn't work for a competitor or try to get back on SCO's board and \$3,000 a month for expenses. He's allowed to pick his successor on the board so long as the person is "reasonably acceptable" to the other directors. As SCO's landlord, the partnership in which Michels is a principal gets \$104,000 a month in rent. SCO has also agreed to pay the four women suing Michels on the harassment charges a total of \$1.25m to settle the case.

HP SHIPS MPOWER FOR REAL-TIME MULTIMEDIA

Hewlett-Packard Co is shipping MPower, its client/server software for real-time communication and collaboration, priced at \$99 for the client-side, 80% off its \$495 list, until September 30. MPower is the newest component in HP's collaborative multimedia program and integrates multimedia capabilities into HP VUE 3.0. MPower gives users point-and-click access to multimedia types - audio, image, graphics, video and text - as well as multimedia mail, faxing, printing, image scanning and the ability to share applications and edit images across the network. The stuff is currently available on HP's 700 series workstations and X stations. It should get on the 800 server series in the third quarter. Real-time sharing of text, graphics, image, audio, video frames and third-party apps is possible via HP SharedX, the MPower component that lets users pick a destination, press a key and share any X window with anyone on the net. MPower's SharedWhiteBoard lets shared images be annotated in real time. In addition, Audio Editor lets users create, playback and mail audio files and annotate text files with audio playback; DeskScan/UX allows scanning, viewing, manipulating for scale, contrast and brightness, storing and printing high-resolution colour and monochrome images; Multimedia Mailer e-mails audio, image and video frames; FAX-UX sends and receives faxes; ImageView views graphics images, including faxes, saves video frames and full-colour Postscript files while PostScript Viewer views PostScript-based objects. SharePrint/UX is a drag-and-drop printing service.

UNIX INTERNATIONAL SEEKS

APPLICATION LINKING TECHNOLOGY

Unix International has issued a request for proposal (RFP) for technology that will let users link, transfer and share objects between documents created by different Unix desktop applications and between Unix and Microsoft Corp Windows applications. This linking should be possible on a stand-alone desktop or across a network. UI says Application Linking capabilities will significantly enhance the attractiveness of Unix-based applications in general-use environments. The Application Linking technology UI is looking for will be compatible with and complementary to the work COSE is doing, according to UI president Peter Cunningham. UI anticipates the technology will be standardised on every Unix desktop vendor's platform and available to software developers. UI promises to work with all segments of the marketplace to move the technology forward quickly. UI issued the RFP under its Expanded Reference Technology Selection Process announced in February (UX No 422). UI members have determined the requirements and will pick the reference technology. UI will then release the interface specifications and conformance tests to the industry to encourage development of other compliant implementations. The choice of a reference implementation for Application Linking is expected this fall and should be deployed as a standard feature of Unix desktop applications by the first half of 1994. The Object Management Group is currently working to provide a definition of related object linking and embedding services. UI's approach is compliant with Object Management Group's Object Request Broker and UI anticipates that Application Linking's reference implementation will provide a migration path to OMG-compliant implementations as they become available. Application Linking Technology will let desktop Unix users cut and paste via a graphical user interface like Motif objects such as text, spreadsheet data, bitmap pictures, vector drawings, sound or video clips from one software application to another. Objects will be automatically updated in the documents they're copied to or host documents as they are updated in the software package they were created in. Objects will also be scaled from within host documents. All software or systems vendors interested in submitting proposal should call UI at +1 201 263-8400. Intent to submit must be registered by May 12 and all proposal received by June 6.

SUN AWAITS HYPERSPARC BUG FIXES

Cypress Semiconductor Corp returned to profitability in the first quarter of 1993 ended March 29, reporting net income of \$2.4m against a loss of \$23.7m in the fourth quarter, on revenues of \$69.5m, up 3%. Cypress attributed its upswing to its restructuring efforts, blaming a negative impact on revenues in part on Sun Microsystems Inc's delayed design-in decision on HyperSparc, Cypress' Viking competitor. Sun's delay is believed to be related to bugs in the Cypress part which Cypress chief executive officer TJ Rodgers now admits exist but doesn't detail. Cypress is also concerned about the impact Sun's new silicon and system design peddler, its Sparc Technology Business unit (UX Nos 429, 431) will have on Cypress' own business. Cypress' Sparc subsidiary Ross Technology shipped only about \$3.9m worth of product last quarter and its continued existence should Sun not opt for the HyperSparc is in doubt.

INSIGNIA HAS WINDOWS EMULATOR FOR HP, IBM

Insignia Solution Inc, Mountain View, California, has started shipping its \$550 third-generation emulator SoftPC 3.0 with Windows for the RS/6000 and SoftPC 3.1 with Windows for Hewlett-Packard Co workstations. It is Insignia's first port to IBM Corp. The Windows 3.1 code and MS-DOS 5 are pre-installed. Insignia promises Windows applications will have 80486 performance in their native environment. To speed Windows performance, SoftPC 3.0 includes special Windows display and mouse drivers that map Windows display and mouse instructions directly to the Motif environment. It provides 286 real and protected mode emulation, an important addition to 3.0. HP, which previously sold SoftPC direct, will be co-marketing the product with Insignia who will be making all the sales itself. Insignia has something like 100 engineers working on its line.

OSF LOOKING FOR SCALABLE TECHNOLOGY

The Open Software Foundation Research Institute has issued a Scalable Operating System Request for Technology (RFT) for OSF/1 Advanced Development - the microkernel version of OSF/1. OSF intends to develop a more distributed version of OSF/1 AD for massively parallel and cluster-based systems. It is seeking four types of technologies: scalable process management, load balancing, scalable networking and scalable file systems. RFT summaries must be received by May 2 and full submissions are due by June 1. OSF says it'll have completed technology selection by July 1.

THE SLOW DECLINE IN IBM'S TURNOVER BEGINS AS IT LOSES \$285m IN QUARTER

By Tim Palmer

One aspect of IBM Corp's business has been in a state of suspended animation throughout its woes so far: its turnover has not declined significantly. However that changed yesterday when the company reported first quarter figures showing turnover off 7% at just over \$13,000m. And given that total hardware sales plummeted by 19.4% to \$5,740m in the quarter, keeping the overall decline to 7% was an achievement in itself, even if within a quarter or three, turnover can be expected to start declining at an accelerating pace. Software revenues rose by 1.1% to \$2,520m, but maintenance was off 5.1% to \$1,800m; services were the star performer, rising 48% to \$1,900m, but the jury is still out and there is a great deal of scepticism that the company can actually make money on all those facilities management contracts. Rentals and financing revenues fell 12% to \$1,087m. IBM said it continued "aggressively" to seek ways" to improve profitability, but admitted that sales of the AS/400 as well as of the mainframes declined as users wait for the new models. Chairman Louis Gerstner said that while demand was week and the company, which once dictated the terms of trade to the whole industry, suffered continued competitive pressures on its hardware products, demand in personal computers, workstations and service businesses remained strong.

Personal computers up 40%

The loss for the quarter of \$285m, \$0.50 a share, was in line with analysts' estimates, which averaged at a loss of \$0.49 a share, and cost controls are seen to be improving. In its conference call with analysts yesterday morning, IBM said that its outlook continues to be difficult and uncertain in light of the destabilisation of its hardware business, and that sales of mainframes declined in a "high double digit" rate in the first quarter on a year-to-year basis and that sales the AS/400 declined in all major geographies. Stabilisation of high-end systems is several quarters away at best, and the mainframe and storage declines contributed to a \$1 per share decline in first quarter gross profits. The double-digit fall in AS/400 business was "in the teens." Quarterly cash flow was at break-even. IBM also said unit sales of personal computers were up 40% on a year-to-year basis and the IBM Personal Computer Co was profitable in the first quarter - but does that mean simply that as a quasi-autonomous company, a load of corporate overhead has been lifted from it and dumped elsewhere? IBM also said that demand for the RS/6000 continued to be strong and pointed out that its operating costs are declining and that total operating expenses were down 8.9% on a year-to-year basis and that sales, general and administrative costs fell 10.1%. IBM said that first quarter revenues were down slightly in the US - where the economy was perceived to be improving until the first set of statistics in April, and in Asia, while revenues from IBM's European operations fell by 13.8%. That seems likely to be primarily down to Germany because the UK was flat on its back a year ago and Italy has not bubbled for some time, while the French recession is only now gathering pace. Costs and expenses rose 14.4% to \$7,896m and gross profit margin was 39.5%, a few percentage points below expectations. In the year-ago first quarter, gross margin was 50.8%. The immediate effect of the announcement was to lift the shares a smidgen, and they were up 25 cents at \$49.50 at the opening.

IBM DEUTSCHLAND BAILED OUT WITH \$580m - 4,500 JOBS MUST GO

It seems as if the reason that IBM UK Ltd couldn't get any cash from its parent to bail it out at the end of last year and reportedly was told to go factor its receivables, is that IBM Corp was too busy bailing out IBM Deutschland GmbH. *Reuter* reports from Berlin that the German subsidiary received the equivalent of \$580 from its US parent last year. Management board chairman Hans-Olaf Henkel said that transfer reduced its extraordinary loss to \$562m last year when it had extraordinary expenditure of \$1,134m. The company made a whopping net loss of \$279m, down from a loss last time of \$298m, and operating profit slumped 61% to \$171m. Turnover fell 6.7% at \$8,696m. The company intends to cut about 4,500 jobs by the end of 1995, leaving it with some 20,000 full-time employees, compared with 24,651 at the end of 1992; 3,500 jobs are to go this year. It expects lower extraordinary spending this year, since it has taken charges for job cuts as well as depreciation already. It made no forecast for its business this year, but given the state of the German economy, it is likely to be worse than last year at the operating level.

DATA GENERAL REPORTS Q2 LOSS

Data General Corp has reported a second quarter net loss of \$7.6m, down from a loss last time of \$55.3m. That was after a \$48m restructuring charge, on turnover down 2.3% at \$267.4m. The mid-term net loss was \$6.8m, down from a loss last time of \$51.3m, on turnover that fell 3.8% at \$547.1m. DG said that while it wasn't satisfied with its overall results, it was encouraged by the continued success of its AViiON family of Unix computers, which showed significant growth over the year-ago quarter, and it remains cautious for the short-term because of the weak worldwide economy and because it sees no evidence that industry-wide pricing pressures will abate in the near future. The Westboro company is able to shrug off the small but steady and grinding losses because it still had \$196.2m in cash and marketable securities at the end of the quarter.

UNISYS SEES WEAKNESS IN JAPAN, EUROPE

Unisys Corp has reported first quarter net profits up 439% at \$206m after a net gain of \$230.2m from the net effect of two accounting changes, and a charge of \$26.4m from the settlement with Honeywell Inc on Sperry Aerospace. Turnover fell 5.1% at \$1,907m; net earnings per share rose 837% to \$1.06. Unisys says that, as it expected, continued revenue growth in the US commercial information systems market was offset by continued market weakness in Europe and Japan and unfavourable currency translations. Chief executive James Unruh says he is comfortable with Wall Street forecasts that the company will earn \$1.15 to \$1.40 a share this year, and told *Reuter* that the rise in the value of the US dollar and the slow economic growth in Europe and Japan were making any revenue growth in 1993 unlikely. Unruh and other Unisys executives also said that one of the top 10 US banks was installing a new Unisys retail banking system, but refused to identify the bank.

NCR POSTS AN OPERATING LOSS

AT&T reported a first quarter net loss of \$5,641m after a \$7,020m charge for the accounting change on post-retirement benefits, and a gain of \$383 for a tax accounting change, against a profit last time of \$883m on turnover up 2.2% at \$15,719m. NCR Corp's total revenues, including sales to other AT&T units, fell 3.9% to \$1,480m, but the company is said to be seeing strong orders for its products. It reported an operating loss \$20m, including a \$50m restructuring charge, for the first quarter, compared to a profit of \$46m a year ago. Financial services revenues, including lease and finance revenues from AT&T Capital Corp and Universal Card revenues, rose 40% to \$570m, and at the end of the quarter, AT&T's total workforce stood at 312,500 against 316,400 a year ago. The company says earnings growth of 10% in 1993 is on target, excluding the accounting changes.

...READIES TOP END 2.0

NCR Corp will be announcing Top End 2.0 in the middle of next month, its next-generation transaction processor for mainframe-class on-line transaction processing applications in client/server environments. It is also supposed to announce it has finished porting Top End to Pyramid Technology Corp machines. NCR is expected to position Top End 2.0 as protecting current investments in IBM Corp hardware and software, including CICS environments, and easing the transition from legacy systems. Top End 2.0 is expected to support other non-NCR platform-specific features a la its recent support for Microsoft Corp Windows Dynamic Link Libraries and add enhanced application management.

TRANSPUTER PARALLEL DEVELOPMENT SYSTEM

Two Dutch companies, Associated Computer Experts BV of Amsterdam and Delft-based Parallel Architecture and Compiler Technology, or PACT BV, have joined forces to produce the Expert Parallel Development System for Transputer-based applications. Expert combines the Expert Transputer compiler family from Associated Computer with PACT's Parallel C Compiler and run-time system to provide a stand-alone, or complete, set of tools for T400, T800 and T9000 application development. The system comprises Parallel C, K&R C, ANSI C, Fortran 77, Pascal and Modula 2 front-ends; a global optimiser; T400, T800 and T9000 code generators; source level debugging; full library support including virtual channel communication and Inmos Binary Compatibility Standard-compliant run-time system. A converter for Inmos's TCOFF run-time system interface to the COFF industry standard, which enables Occam modules and libraries to be linked in is also provided. The system costs around \$2,200 for an MS-DOS version and \$6,600 for a Unix C-based version and is available from Associated Computer Experts, PACT and their respective distribution chains.

POWERPC PRICED TO TAKE ON PENTIUM

Intent on delivering the message that the PowerPC chip is a mass market contender, Motorola Inc this week will hang price tags of \$280 each for the 50MHz 601 and \$374 each for the 66MHz 601 in quantities of 20,000 units. Its pricing severely undercuts the last known price points Intel Corp was considering for its laggard Pentium chips: \$995 for the 60MHz and \$1,200 for the 66MHz (UX No 429) though points of \$795 and \$995 respectively are also being forecast. It remains to be seen exactly what pricing measures Intel will take with either Pentium, because of its continued delivery problems, or the 80486, because of the recent court ruling letting Advanced Micro Devices ship its 486 clones - see opposite. Pentium pricing is now supposed to be announced on May 20. The 601s Motorola intends shipping in high volume beginning in the third quarter are being made by IBM Corp, Motorola's partner along with Apple Computer Inc in the PowerPC push. Initial deliveries are expected to go to at least the other announced PowerPC allies, Groupe Bull SA, Thomson-CSF, Harris Corp and Tadpole Technology plc, with Apple taking the lion's share. Motorola's current role is to open up the merchant market for PowerPCs, selling to those who won't buy from IBM, the chip's originator. Its fabrication skills will be called on for later iterations of the chip, the 0.5-micron 603, the 604 and the 300 Specmark-to-500 Specmark 620, all due to arrive next year. It will probably never build the 2.8 million-transistor 601, projected to have a three-year life cycle. Motorola says the 601, a symmetrical superscalar device that supports enhanced multiprocessor features, should give hardware vendors the option of producing a \$2,000-\$2,500 box fired by a chip that performs at 60 SPECint and 80 SPECfp based on initial SPECmark 92 measurements. Motorola estimates that box would have at least 8Mb internal, a 100+Mb drive and a high-resolution colour screen. The 601 follow-on, the 603, should provide Pentium-class performance for machines, especially portables, in the \$1,000 to \$2,000 range.

Millions next year

IBM and Motorola expect to be producing PowerPCs in the millions starting next year, aiming to capture a 20% market share in 1996 or 30% to 40% of the desktop market. Their intentions are a far cry from DEC which is also trying to position its competitive Alpha chip as a mainstream merchant part but whose internal documents reportedly project a total of only around 200,000 to 300,000 Alpha being built next year. Further down the road, in 1997, DEC estimates a total of five million Alphas will be built, with DEC making a third of them and having a third of that left, some 500,000 pieces, to sell on the open market. IBM and Motorola have also apparently skirted the heat dissipation problem haunting both the Pentium and the Alpha. The 50MHz 601 throws off only 6.5 watts and the 66MHz 9 watts. The 603 should come in under 3.2 watts. Motorola has also put out four software packages in support of the PowerPC: a Software Development Package to encourage application development, C and Fortran compilers and an Architectural Simulator for those building to future generations. The bundled toolkit with source-level debugger is \$5,000. Separately, the compilers starting at \$1,500 each and the simulator for \$3,500. All are immediately available on the RS/6000.

PAUL FREEMAN READIES SNMP 2 UNIVERSAL AGENT

Following the announcement of approval of elements of the SNMP2 proposal, Westford, Massachusetts-based consultancy Paul Freeman Associates says that a combined SNMP 1/2 version of its Universal SNMP Agent will be announced very soon. Agent sources will cost \$8,000; existing customers will be able to upgrade to the joint version for \$800. Announcement of a version of the Agent characterised for Unix System V.4/386 is also imminent. Evaluation versions are available now; the company says, and the extensible binary version will cost \$50 for single copies with volume reductions. The Universal SNMP Agent is designed for companies that want "to manage net nodes in a reliable, predictable way". The Intel version shares the capabilities of the portable source Unix version and is said to be easy to install. The next target operating system is any Unix with a network subsystem derived from BSD 4.3. This version should be available in a month or so and will possibly be followed by a Solaris version. As a means of encouraging customer and third party Management Information Base development, the consultancy has available MIB2 source code for System V.4 available free of charge to existing Agent customers. This code enables users to produce a complete working Agent for installation in an System V.4 environment in minutes. By midsummer, Paul Freeman hopes to offer run-time Management Information Base loading and unloading. Disk-resident MIBs will be able to be loaded and activated dynamically as well as unloaded and de-activated in order to free memory.

LETTING IN THE ENEMY HORDES? SNI TO PUT COMET BUSINESS SUITE UP ON HP-UX, AIX UNIX

In what looks strangely like an open invitation to the competition to plunder what is left of the 8870 base, Siemens Nixdorf Informationssysteme AG's Comet mix-and-match business management software, which previously ran only on the company's Unix boxes and its proprietary 8870 and Quattro ranges, will soon run on IBM Corp and Hewlett-Packard Co Unix machines too. According to *Computerwoche*, version 3.0 of the software is due to be released this month and an AIX version will follow in May, and an HP-UX release will be available later in the year. The company will sell the product both direct and through agents, but not via OEM channels - a marketing strategy that those in Comet circles doubt can and should be maintained. Siemens Nixdorf wants its agents to operate purely as software houses. But the problem is that they may not be able to deal adequately with operating systems and computer environments that they don't know and are not allowed to market; especially given the financial position many of them are in. Comet is written in Basic, and although it has been around for about 20 years, is still widely used. Siemens Nixdorf has guaranteed that it will continue developing the software until 1996, and will offer maintenance into the next century.

READY HAS NEW REAL-TIME ANALYSIS TOOL

Ready Systems Inc, Sunnyvale, California, has introduced Xpert Profiler, an application performance and execution analysis tool for real-time embedded systems. According to founder and president Jim Ready, Xpert enables users to monitor the behaviour of code as its being written. To do this, it tracks system flow, ISR nestings, task switching and identifies bottlenecks. Design failures are displayed graphically, as are statistical tables and execution timelines. It also includes a profiling library, which stores samples of code as an application is being developed. Xpert is available now and runs on a host Sun Microsystems Inc Sparcstation - support for Hewlett-Packard 9000/700s will follow later this year. Ready also launched SNX, a set of network executives which support multifarious protocols including TCP/IP, FDDI, SNMP, SLIP, ARP, Ethernet, Telnet and FTP. SNX, based on the Streams networking standard, allows developers to prioritise tasks across both the target and host machines. It'll ship by the end of the year.

ADVANCED MICRO TO SHIP Am486 AT ONCE AFTER ORDER FOR RETRIAL

A savage new twist to the personal computer price-performance ratchet is in prospect after Advanced Micro Devices Inc announced yesterday that it will plunge straight into the 80486 market with a family of devices using Intel Corp microcode rather than wait until its own "clean" version of the chip is ready in June. It will announce specific Am486 products, pricing and availability this Thursday. The decision follows a court ruling late on Friday in which Judge William Ingram ordered a retrial of the interminable lawsuit brought by Intel against the Sunnyvale chipmaker over the latter's alleged non-performance under their second source and products development agreement. The suit could still go against Advanced Micro, but it is now free from the injunction barring it from shipping 80486 and later generation chips that include Intel proprietary microcode - although Intel is free to seek a new injunction prior to the retrial. Intel Corp shares were down sharply prior to the New York opening as investors reacted to the news: opening at \$99, they carried on down to \$95.75, off \$14.25 from the \$110 at the close on Friday. Advanced Micro shares were up \$3.125 or 13.5%, at \$27.375. Intel said the decision overturning the jury verdict in its favour will have little impact on the 80486 market. The judge ordered the new trial on the grounds that Intel withheld key documents that could have influenced the jury's findings on the meaning of the license agreement. "The failure to produce them substantially interfered with AMD's discovery and trial presentation," said Ingram in a 12-page decision. "Moreover the non-production prevented AMD from fairly presenting its defence." "The judge granted AMD a new trial based on the fact that they claimed they didn't see a Business Wire report when we announced that we sued them," Intel general counsel Tom Dunlap told Reuters. AMD also says it has started work on developing an Am586 to compete with Intel Corp's forthcoming Pentium. "We will introduce Intel-compatible parts first and then offer versions that feature proprietary architectural enhancements," the company says. One version of the Am586 chip will incorporate special features for portable computers.

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Sequent Computer Systems Inc will launch its K2 series of multiprocessor Windows NT systems co-designed with **Tricord Systems Inc** on May 3rd in the US - May 4th in the UK (UX No 420). Tricord has already debuted the things as its 5000 series in the US running a variety of operating systems - though Sequent has an exclusive deal on NT versions. As well as the low-end K2 boxes, Sequent will also be launching a series of high-end, Pentium-ready systems that are also thought to be NT-capable.

Overseas Bechtel Inc, a Bechtel subsidiary, will be selling a Kanji version of **O2 Technology SA's** O2 object-oriented data base in Japan which the company believes is strategic ground for its product.

Bill Gates is going to keynote **PC Expo** in New York June 29-July 1 at the **Javits Center** speaking on "New Technology for the Information Age." We can guess the rest.

Quantum Software Systems Ltd, the 10-year-old Unix-like firm has have changed its name to mirror its software: it is now **QNX Software Systems Ltd**.

Now that the transition into planets is well-established, we suspect **Scott McNealy** is wearying of playing the dual and sometimes conflicting roles of CEO of parent company **Sun Microsystems Inc** and president of the company's systems planet **SMCC**, going to both sets of meetings and dealing with other planets as an equal who's also their boss. We bet he's on the lookout for a president of **SMCC**. Meanwhile, we also think he's being urged to further planetisation by some of his lieutenants.

DEC has filled the critical post of head of worldwide sales and marketing, naming **Edward Lucente**, once an **IBM** bright light and a top guy at **Northern Telecom** for the last two years, completing its new executive roster.

Gescan International, the Research Triangle Park, North Carolina-based **General Electric** spin-off, has moved its turnkey or customisable document and workflow management systems for newswire and real-time message handling to **Spars**, **HP 9000s**, **RS/6000s**, **DEC Alphas** and **DEC RISC** machines. The company, whose existing product line is used in US government sites, is looking for exclusive geographic and vertical market VARs. +1 919 460-3100

Reed Exhibition Companies and Comdex' Interface Group are pairing to produce **Comdex/Comexpo Mexico** in Mexico City next March 8-11.

Intel Corp is reportedly talking to anyone with cooling technology for its overheated Pentiums.

Data Sciences UK Ltd appointed **Andy Roberts**, formerly **ICL PLC's** mid-range systems manager to be its new group chief executive with immediate effect: Roberts replaces **Mike Smith**, who resigned from the firm.

Intergraph Corp has reported a first quarter net loss of \$7.7m after a gain of \$2.5m on a change in the way tax is accounted for and a pre-tax restructuring charge of \$2.6m, against a profit last time of \$2.9m, on turnover that rose 1.8% at \$282.1m.

Saying that it suffered a sudden drop in demand during last year's third quarter, an upsurge in the normally strong fourth quarter, and another significant decline in early 1993, **Amdahl Corp** last week announced a big new round of cuts, saying that 1,100 jobs, 12.9% of its worldwide workforce, must go in response to current market conditions. It employs 5,000 people in Northern California. Following the earlier reduction of similar size **Amdahl** says it has been able to restructure or consolidate a number of operations and the new cuts represent a further streamlining.

Microsoft Corp may be planning to port NT to the PowerPC like *Computer Reseller News* suggested last week but in sounding out the **Motorola** people on the subject it didn't seem like anything was imminent - and they want all the key operating systems on the thing. Meanwhile, shades of Intel Inside, expect to see a PowerPC image campaign starting up in the second half.

AT&T Co announced in Dublin that it is closing its plant in Donegal, northwest Ireland, at the cost of 63 jobs, and is also cutting 50 jobs at its plant in Bray, in the east. The reductions will trim its workforce in the Republic to 235 people.

Starting on Monday April 26, informed sources say **DEC** will be laying off 40% of its US sales force, 2,500 people.

Samsung Electronics Co Ltd has thrown in the towel on its Unix fax unit **Samsung Software America** and dissolved the operation after about a year. However, the developer of the **Replix** software, **Dr Hikyu Lee**, who had been president of **Samsung Software**, has picked up the rights to it and moved it to **SoftLinks Inc**, a new operation he's starting with ex- **Data General** man **John Doyle** as vice president, sales and marketing.

The talk now, based on suggestions from **Microsoft Corp**, is that Windows NT won't be delivered before August. It's doubtful, however, that a few weeks delay in its schedule will diminish its impact. NT is exerting enormous pressure on the industry as it is.

Tales are starting to circulate about **COSE** meetings getting huffy (actually the way we heard it "degenerating into shouting matches") over **Hewlett-Packard Co** pushing **SNMP**, the de facto simple network management protocol standard - as embodied in its **OpenView** systems management software - and **HP Open VUE** as **COSE's** network and system management interfaces. In support of its cause, reports also suggest **HP** is readying new additions to the **SNMP-based OpenView** that will allow the simultaneous management of mixed **HP, IBM** and **Sun Microsystems Inc** environments.

One insider believes the **COSE** firms have not yet decided whether to level the playing field at this technology point, or if systems management can be used an excuse for competitive advantage without hurting their collective drive against **Microsoft Corp Windows NT**. "Do they want to solve the problem is the question?" asks the source, who is afraid that "systems management was a **COSE** epitaph."

Apparently **WordPerfect Corp** will tag along to **SunSelect's WABI** announcement May 5 to say nice things.

The Acer Group claims to have the "world's first single Pentium chip multiprocessor upgrade technology," the engine for the fastest entry-level server ever developed. Details are scarce.

Four Seasons Software Inc, developers of the **SuperNova** application development environment, has signed a distribution pact for the Czech and Slovak republics with systems integrator **Komix sro** in the Czech Republic.

AT&T/NCR Corp subsidiary **Applied Digital Data Systems Inc** and **Structured Software Solutions Inc** have a co-marketing agreement for **ADDS** to distribute **SSSI's FacetTerm** window and session manager software with **ADDS' AlphaWindow** and character terminals, making **ADDS** the only terminal manufacturer to offer windowing solutions on both character and **AlphaWindow** terminals. To encourage evaluations, VARs can currently buy a single **AlphaWindow** terminal with **FacetTerm** for a reduced price of \$350.

Sybase Inc has formed a new subsidiary **Sybase (Schweiz) AG** in Switzerland through the acquisition of **SQL AG**, a former **Sybase** distributor. This acquisition, part of an aggression expansion plan in Europe, gives **Sybase** its sixth European subsidiary, the second this year. **SQL AG** has 250 customer sites. Its founder **Peter Ohnemus** has been named managing director of the Swiss unit and sales director for central Europe.

Network Computing Devices Inc reported net revenues of \$35m for the first quarter ended March 31, an increase of 49%. Net income was \$3m, including an extraordinary credit of \$573,000. The company has been finding competition strong and experienced a slow seasonal start. Gross margins declined.

Headlines in a US paper saying the **Open Software Foundation** has dropped **Tivoli Systems Inc's** management framework from its **Distributed Management Environment** are flat out wrong and creating unnecessary waves. As **Unigram** said before (UX 428), **DME 1.0** is being made fully compliant with the **Object Management Group's** **Common Object Request Broker (CORBA 1.1)**, a specification that postdates development of both **DME** and the **Tivoli** framework. As a result a small piece of low-level code is being reworked, hardly something to even write home about. According to **OSF**, the **Tivoli** framework remains central to the object-based management framework.

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**PUBLIC WINDOWS INITIATIVE TO COUNTER
MICROSOFT'S PRE-EMPTIVE STRIKE AT WABI**

Microsoft Corp and Insignia Solutions Inc are reportedly planning a pre-emptive strike against SunSelect's Windows-on-Unix WABI solution this week, pitting a Microsoft-backed Insignia SoftPC against it in the market. SunSelect is due to make its WABI announcement on Wednesday May 5 at a gala in California with IBM Corp, Hewlett-Packard Co, Santa Cruz Operation Inc, Unix System Labs and Sun Microsystems Inc there as licensees and SunSoft Inc saying it will bundle the software with Solaris (UX No 428, 431, 432). Reportedly WordPerfect Corp has withdrawn its support (UX No 433). WABI is now also expected to go forward into the COSE initiative. Sun, which has refused to license Windows 3.1 from Microsoft has literally had to re-invent Windows from scratch. The process is technically demanding and time-consuming, to say the least, and leaves WABI snookered as far as staying current with Windows development goes, a situation Microsoft is likely to exploit. However, in an attempt to forestall or derail Microsoft's likely objections to WABI, legal or otherwise - including its promise to "make Windows such a moving target that Sun could not keep up" (UX No 431) - Sun is also expected to unleash its latest secret weapon that's guaranteed to raise the stakes once again. It has orchestrated a Public Windows Initiative pressure group of vendors that will attempt to force Microsoft to open up, if not make public, future plans for Win16, its 16-bit application programming interface for Windows 3.1, so crucial for Windows developers. Membership of PWI is reportedly a condition of taking a WABI licence - all licensees are understood to have been sworn to secrecy under the direst of threats for disclosure. PWI - with COSE at its side - will attempt to claim the high moral ground over the issue of open specifications and is likely to cast Microsoft in a mantle that was once the preserve of IBM. Moreover, it's surely no coincidence that PWI comes at a time when anti-trust allegations against Microsoft are reportedly still under investigation by the US Federal Trade Commission. Sun is clearly demonstrating to Bill Gates some of the black arts on which the Unix industry has cut its teeth - more of which Microsoft can undoubtedly expect to face with its Windows NT challenge. More details, page three.

NQUE TAKES THE ALTERNATIVE UNIX-ON-WINDOWS APPROACH

nQue Technologies Corporation, a small Silicon Valley start-up, has mapped out a wholly different approach to the Windows-on-Unix issue so wily and obvious it's amazing it's taken the industry this long to come up with it. Rather than porting Windows applications to Unix, in the current fashion, nQue is porting the Unix operating system to Windows. It is taking SVR4.2 and putting it on top of Windows 3.x as a Windows application. It says the two complete kernels will be able to sit side-by-side on Windows systems and run their respective applications. Its technology is the first integration of both the Unix and Windows operating systems on a single machine. nQue fancies itself a non-threatening bridge to migrate Windows users painlessly to Unix and snatch them, in the process, from the jaws of Microsoft Corp's Windows NT. (It believes that's where Microsoft ultimately intends pushing all its Windows clients.) nQue, however, is using Microsoft's own technology to create a low-cost shrinkwrapped retail package called OpenAgent that adventuresome users can install on their Intel machines without hazard to explore the potentials of Unix: its standards, maturity, 32-bit architecture, connectivity, multitasking, distributed computing strengths and application base which nQue believes will be stronger than NT's for some time. The company calls OpenAgent "Unix with training wheels." Unlike UnixWare, Solaris-on-Intel or even NT, OpenAgent won't require users to wipe their disks and then replace their applications, an inhibiting thought for most people, according to nQue founder William Thompson. Thompson says OpenAgent can be a 30-minute install from a CD-ROM and everything already on the machine is protected. nQue believes its approach, which harnesses the full potential of Enhanced-Mode Windows using its Virtual Machine capabilities, yields performance and compatibility far superior to any Windows emulator. It claims 100% compatibility with Windows 3.x (as it is now and as it may become to ward off emulators) and no degradation in the performance of any Windows application. nQue also claims native-mode Unix applications will run at 94% of their potential performance. The company is currently raising a million dollars in seed financing from private sources and will seek a final \$8m round, perhaps in part from key OEMs. It expects to beta test the initial pieces of OpenAgent early third quarter and ship to OEMs late in the fourth. Details, page five.

INDUSTRY "IS TEA-BAGGING" PENTIUM CPUs

Last week, when Unigram.X broke the news that Intel Corp wouldn't be able to deliver Pentium in any serious numbers before October, we had some trouble identifying the five pet companies that will get what can be had of the scarce chips. As it turns out they are Compaq Computer Corp, Dell Computer Corp and NCR Corp (as we said), NEC Corp and Hewlett-Packard Co. The shortage of Pentiums is so bad the industry has reportedly taken to what some people call "tea-bagging," moving their precious chip supply from system to system to prove to customers their box works, then quickly back to the treasure vault.

**SUN SPARCSERVER 1000 BRIDGES
GAP BETWEEN 500 AND 3,000 USERS**

On May 11 at the SunWorld expo Sun Microsystems Computer Corp will complete its Enterprise Server family with the introduction of its scalable, COSE-compliant, 1,500-user, 8-way Scorpion, now officially tagged the Sparcserver 1000, a mid-range multiprocessor. The departmental application server fits between Sun's 500-user Sparcserver 10 and the high-end 3,000-user SparcCenter 2000. The Solaris 2.2-based system, whose profile resembles a "deep dish" or "Chicago" pizza box, expands to eight 50MHz SuperSparc+ processors and up to 2Gb of memory with 200 Mb/second I/O bandwidth, 12 expansion slots, 100Gb disk capacity and built-in high-availability fault-resilient commercial features. The system will be field upgradeable to next-generation Sparc microprocessors. List prices start at \$36,700 for a uniprocessor with 32Mb internal and 1Gb disk going to \$46,700 for a two-way with 64Mb and 2Gb disk or \$75,700 for a 4-way with 128Mb memory and 2Gb. The single-image 350-TPS maximum Sparcserver 1000 tops out at \$110,000. SMCC is expected to claim that the unit is a "hot box," taking the number one position in benchmarks such as MIPS, Database TPC-A, Specint92 (figure a maximum 9000+), Specfp92, AIM III and Laddis. It will compete against Hewlett-Packard Co's G, H and I series, IBM's 570, 580 and 980 and Digital Equipment Corp's Alpha 3500 AXP 4000 AXP. Sun will claim the Sparcserver 1000 sets a new standard for configured system cost comparing one of its fully configured 4-ways at \$76,500 to an HP H50 at \$105,475, an IBM Corp 580 at \$107,522 and a DEC 4000/620 AXP at \$151,544. Similarly, it will claim a new standard for upgradeability. Because the Sparcserver 1000 is scaleable and highly modular upgrading from a base system to the high end is by simple addition and would run \$96,400 in upgrade charges. At HP it would require a minimum three systems swaps and run in excess of \$500,000. Sun has also bundled a one-year on-site warranty into the system to make it attractive to business environments. It is specifically targeting manufacturing, retail, teleservices, decision, support, information publishing and branch automation as well as its old standbys engineering, scientific and electronic design automation. Sun has been finding management information system departments, traditionally a cost factor at corporate customer sites, getting more involved in decision-making in the department, a corporate profit centre where budgets are now flowing. Reportedly Oracle 7, Sybase, Ingres and Informix have all been tuned for the 1000.

...SUNBOX AIMED AT AUSPEX

Meanwhile, when we first mentioned a new eight-way box coming from Sun we called it SunBox (UX No 429). As it turned out that was wrong. The code name for that box was Scorpion, now officially the Sparcserver 1000. There is however a real SunBox: a four-box rack-mounted cluster due in July and aimed at Auspex Systems Inc's NFS file servers.

DISTRIBUTED MANAGEMENT - THE DISEASE FOR WHICH TIVOLI HAS THE CURE?

By William Fellows

Conceived as an open, shared environment for academics and scientists, Unix was not designed with the goal of running commercial businesses in mind. Nevertheless, it has become established as the only real alternative for organisations seeking to avoid or escape proprietary, single vendor solutions. Features and functions enabling commercial data processing across distributed systems are or have been added, whilst holes and voids in the system have been plugged and patched. Apart from basic, but effective system administration facilities, Unix has lacked a proper mechanism for managing the overall application environment as a single entity. Whilst the benefits and opportunities presented by distributing tasks and applications across high-performance, inexpensive Unix processors are being realised across the industry, commercial users are used to well-proven systems management utilities such as Digital Equipment Corp's Enterprise Management Architecture and proprietary solutions from the likes of IBM Corp.

Tivoli Systems Inc, based in Austin, Texas, has a growing band of acolytes which are supporting its effort to bring a framework for distributed systems management to Unix. Tivoli's boss, ex-IBMer Frank Moss, believes that in many organisations up to 40% of the cost of owning Unix kit can be attributed to managing systems that are distributed across networks. Whilst technological advances and competition are driving hardware, operating system and application software prices down, systems management costs are rising, he says. Tivoli's aim is to reduce the cost and complexity of managing heterogeneous distributed environments which include Unix systems and personal computers. Systems management is "the disease for which we have the cure," he believes. As well as a basic management framework a variety of applications are required to suit different commercial environments, including change and configuration management, security management, inventory monitoring and analysis, client/server application management and operations management. To get independent software vendors interested in its technology, Tivoli first had to get a system management framework and basic services established for applications to reside on. The Tivoli Management Environment, TME, includes Tivoli/Works - a framework and installation facility, administrator facilities and services. There are add-in applications for software distribution, system monitoring and configuration and change management for file systems - known respectively as Courier, Sentry and FSM - plus an application development environment and extension facility toolkits. The technology has already been picked up in one form or another by many sections of the Unix vendor community. Tivoli was selected to provide the framework for the Open Software Foundation's Distributed Management Environment - which will provide another application development environment to the industry when it comes on stream - has Unix System Labs, SunSoft Inc and others backing it too. TME is already available on SunSoft Inc Solaris and Hewlett-Packard Co HP-UX operating systems. Versions for Unix System Labs' Unix SVR4 and IBM Corp AIX are due this year. A Microsoft Corp Windows NT version will be on show at the forthcoming Comdex exhibition - "if we can get it lined up by then" - whilst Tivoli investor, mainframe system management software house Legent Corp will take the technology into the IBM MVS world. Although most of these implementations will be layered on top of the operating systems - Moss believes users will turn to Tivoli for solutions and applications.

"TME Inside"

If the Unix suppliers are able to agree on a consistent systems management application programming interface - and each also uses a similar implementation of the Object Management Group's Common Object Request Broker Architecture - Corba - independent software vendors would be able to offer binary system management applications running across a variety of platforms. The vendors need a "more intimate relationship than they're getting in Corba," to get this together believes Moss. One way would be for the Common Open Software Environment firms, HP, IBM, Sun Microsystems Inc, Santa Cruz Operation Inc, Unix System Labs and OSF - plus arbiter X/Open Co Ltd - to endorse an API that Tivoli has already offered up for their use (UX No 429). Providing a "fast path to systems management," wouldn't be the only benefit to Tivoli - "TME Inside" would undoubtedly prove a powerful marketing tool. The goal of Tivoli's own "united framework theory" is to realise a consistent graphical user interface, application portability and inter-manageability across emerging Unix systems management solutions such as USL's Distributed Management system, SunSoft's Distributed Objects Everywhere and OSF DME. Moss favours COSE establishing a combined superset of OMG standards plus the Tivoli API that could be quickly implemented by its adherents. Moss says Tivoli could have TME source re-written in the Corba IDL language within six months and says there is only around 5% difference between the object technologies in the OSF, SunSoft and USL solutions. The problem with relying on COSE is that no-one's really sure if it wants or is ready - or knows how - to solve the problem yet. Executive voices have been raised several octaves over the issue (UX No 433), and there does not appear to be any clear agreement yet on how COSE firms would level this playing field.

COSE firms could still decide to use systems management - or even different object request broker implementations - to gain competitive advantage over each other. "That would be like each doing their own version of NFS or TCP/IP and handing the advantage to Microsoft Corp's Windows NT, which has no systems management API yet," warns Moss. At the end of the day, he says Tivoli will offer TME APIs that comply with whatever COSE comes up with in the way of systems management. Once systems management technologies start coming on stream, operating system suppliers are expected to begin integrating system management APIs into existing and future, object-oriented versions of their operating systems. Moss says independent software vendors don't need to wait for Unix suppliers to release integrated offerings to begin application development and porting work - if they develop to TME now, applications should move across to integrated operating systems "almost intact," he claims.

Transfer

Ideally Moss would like the open system vendors to go one step further and take over development of Tivoli's distributed management framework entirely - "because they should be doing the standards and API work." However, with the current uncertainty of COSE's intentions and the range of systems management and other API options being considered by various open systems groups and organisations it is "no time to bow out now," says Moss. Tivoli will continue to develop the framework alongside solutions for the time being. On current form, Moss thinks the transfer of development responsibility for its framework technology to the vendor community is at least two years off. Although Tivoli has the open systems distributed management market pretty much to itself at the moment, Moss knows that the provision of a pervasive technology standard to the industry cannot generate a revenue stream much further into the future. Indeed he does not expect the firm to derive any long-term revenues from object services, common management services or common interface layers. His plan is to establish the Tivoli framework as a standard technology by licensing - and creating APIs - for as many vendors as possible and attract ISVs and developers to create a systems management application market on top. Once the standards and interface issues have been ironed out, Tivoli will concentrate its efforts on developing applications for configuration and change management, security management and inventory monitoring and analysis.

In addition, Moss expects to form a bunch of third party relationships with firms doing things like client/server application management tools, data centre management packages and operations management solutions: niche markets he will leave to others. Moss believes much of Tivoli's future success depends on getting framework technology and solutions out through the Unix channels. He says several start-ups - plus some established firms - are expected to follow in the footsteps of Canadian firm Open Vision (UX No 433), and begin developing for and upon the Tivoli framework. Moss says he has negotiated with the unnamed firms to ensure they won't be duplicating each others' efforts. The Unix systems management market is thought to be worth some \$40m now - its expected to top \$1bn by 1997/98. Moss says he'll be more than happy if Tivoli can grab up to 50% of an enlarged market. Last year saw half of privately-held Tivoli's revenues come from sales of Tivoli Works, the framework, toolkits and services. The other half came from end user applications. This year Moss expects less than 20% of turnover to come from sales of framework technologies - he hopes end user products will make up 80% - and only 5% or 10% during 1994. He says the company isn't looking for any more investors and should soon start generating cash. Tivoli has around 100 customers worldwide and is looking for an OEM deal in the Far East around the end of the year by which time its internationalisation efforts should be complete. Six UK licencees include the Prudential Building Society, the Post Office and Swiss Bank - North West Water is said to be taking a look. Distributed computing solution supplier Protek Ltd, Maidenhead, Berkshire, has an exclusive deal to peddle Tivoli products in the UK and provide training and support.

MICROSOFT AND INSIGNIA STRENGTHEN ALLIANCE AGAINST SUNSELECT'S WABI

To steal SunSelect's WABI's thunder - see front page - Microsoft Corp and Insignia Solutions Inc are believed to be moving on the accord that will strengthen their relationship. The much-rumoured pact will see Insignia admit it has a license to Windows source code and the right to modify it at the application programming interface level to improve the performance of SoftPC, its Windows-on-Unix package. Access to Microsoft's technology, which Insignia has had in-house for some time, is expected to make SoftPC run MS-DOS and Windows programs at near native performance probably by the end of the year. The Microsoft-Insignia alliance spells trouble for Sun which has refused to license Windows from Microsoft. Sun's technical approach with WABI means they must literally re-invent Windows from scratch. The process is technically demanding and time-consuming, to say the least, and puts WABI behind the eight ball as far as staying current with Windows development, a situation Microsoft is likely to exploit. As it is, SunSelect has reportedly validated only a dozen Windows applications on WABI and the thing still doesn't print. Meanwhile, WABI is making its debut to suggestions from Microsoft that it might sue for violating its intellectual property rights (UX No 431). Though Microsoft might be posturing, licensing WABI to HP, IBM and USL also reportedly exposes Sun to risk of legal action by Insignia. WABI was written by people who worked at the BIOS house Phoenix Technologies and later at Integrated Technologies Inc. Insignia bought the Phoenix and ITI technology years ago and continues to hold the residual rights. Sun itself has rights to that technology but only on Sparc platforms and maybe not all of them. Insignia is believed to have spoken informally to Sun on the matter. Meanwhile, sources contend that IBM's and HP's commitment to WABI is fairly weak. The two are said to be concerned over Sun's ability to deliver code on time and suspect it may not prioritise their platforms over Sun's own. On the other hand, being box shifters, they may not care what software they ship and some people are betting they'll both wind up licensing from Microsoft.

OSF TO SPELL OUT DISTRIBUTED MANAGEMENT FUTURE, AS IBM TAKES THE REINS

Under pressure to clear up the confusion surrounding the direction of its Distributed Management Environment, Open Software Foundation DME technology manager Kathryn De Nitto says the group will make a statement within two weeks which should answer some of the questions on many lips. OSF had planned to do the work on integrating the various DME components itself after members were scared off by IBM Corp's experience of integrating DME's companion piece DCE, the Distributed Computing Environment. OSF and Tivoli Systems Inc - source of the DME framework - are said to have appealed to IBM and Hewlett-Packard Co after sensing a loss of interest in DME due to the slow progress (UX Nos 421, 428). OSF says final contracts specifying who is responsible for reworking and integrating which pieces of DME have yet to be exchanged, although Tivoli Systems Inc boss Frank Moss says "we now report to IBM, not OSF." Aside from integration difficulties, OSF has also been bogged down trying to figure out how to implement a standard version of the Object Management Group's Common Object Request Broker Architecture (Corba), a mechanism for managing objects across distributed systems. The fact that the DME framework was not interoperable with other OSF founders' Corba technologies has meant that some layers of DME have had to be re-designed and/or re-written using donated parts of Hewlett-Packard Co's Distributed Object Management Facility and IBM's System Object Model (SOM). IBM is apparently now convinced that DME can succeed - it will get a distributed object application development environment and Corba-compliant object dispatcher - and because of the resources available to it, will take over the role of key integrator. Tivoli continues in its role as a sub-integrator of the systems management portion of DME. Its framework object model will become more interoperable with the HP and IBM environments as a result. Although IBM's SOM has only some 10% code in common with Tivoli's technology, only a small percentage of Tivoli source is replaced in DME's re-worked systems management component. Indeed, Tivoli says it may even adopt SOM as a subset of its own future offerings. Moss says once OMG declares the results of its request for object services, then all this stuff should become a lot more standardised. OSF decided to split DME into two manageable sections some time ago. De Nitto says the third snapshot of the distributed services module was frozen last Thursday and will go out to members in September, following testing. It'll include most software distribution and networking technology, though print services will lag some two months behind. DME's framework component includes the object management and network management systems. Work on integrating the HP, Siemens and Bull-derived network management pieces will be complete by the end of the year. OSF won't put a date on when the re-worked Tivoli-based object management system will be delivered until its announcement later this month, though observers speculate it may be as late as the middle of next year.

THREE VERSIONS OF NT NOW EXPECTED, AS SEQUENT EXPANDS MICROSOFT PACT

Microsoft Corp has told Sequent Computer Systems Inc, one of its allies in the upcoming Windows NT blitzkrieg, that the server version of Windows NT will start shipping by the third week of June. Sequent was also told the NT client could ship at the end of May, simultaneous with system's launch at Comdex Spring/Windows World. Sequent says there are to be three versions of NT: the client, an inexpensive four-processor retail iteration of the Advanced Server and a 16-processor OEM-only version of the Advanced Server. Whether or not the software is production-ready, Sequent intends taking revenue orders for its anticipated new Intel Corp-based, NT-exclusive WinServer symmetric multiprocessors starting June 1 and shipping almost immediately (UX No 418). It will deliver the Beta 2 version of NT if necessary. Sequent claims its Fortune 200-targeted customers are unconcerned. Sequent will "pre-integrate" NT, network and application software, particularly SQL Server and Oracle 7 databases, in its new boxes under an expanded joint development pact with Microsoft to be announced this week. The pair are hoping the custom-configured WinServers will prove as easy to deploy as personal computers. The line includes only one home-grown box, the high-end 16-way WinServer 5000, priced at \$247,000 with 384 disks, 32 SCSI channels, 2Gb memory and parallel-processing comms facilities and unavailable until the fourth quarter. Sequent expects the mainframe-class 5000 to go to 30 processors. The other three members in the family are all being OEMed from Tricord Systems Inc (UX No 420) and will be available soon from Sequent as the entry-level 2-way WinServer 1000 priced at \$29,900, the 2-way WinServer 1500 priced at \$39,300 and the 6-way WinServer 3000 priced at \$75,300. Like everybody else, Sequent is waiting on Pentium deliveries from Intel, now not expected much before the end of the year. Until then it will use 66MHz 80486 parts instead. It describes the 1000 with 512Mb RAM, nine 3.5-inch disks and two SCSI channels as fit for business-critical client/server workgroups and small departments. The 1500 is also designed for LAN consolidation, decision support and workgroup computing with 512Mb RAM, 21 disks, four SCSI channels and optional redundant power supplies. The 3000 supports large-scale LAN consolidation, TP and decision support with 16 SCSI channels, 1Gb RAM, 192 disks, optional fault-tolerant protection and redundant power supplies. Sequent is targeting Oracle NLM users and OS/2 estimated to be running out of power. It is working from a list of 20,000 OS/2 sites supplied by Microsoft. Resellers will include Novell Platinum types and Tricord VARs. It is also experimenting with a hybrid telemarketing scheme called WinCentralDirect that fits in with the company's plug-and-play attempt and puts customers in contact with NT-certified technical and business consultants.

DESTINY SUES USL FOR RIGHTS TO NAME

Now it's Unix System Labs' turn in the dock. Destiny Technology Corp, a nine-year-old printer controller and ASICs developer which sells to OEMs, is suing Unix System Labs, Novell and Univel for trademark infringement, deceptive trade practices and unfair competition for using "Destiny" as the code name for SVR4.2. The suit was originally filed in February in the US federal courts in California and is being pursued now that attempts at an out-of-court settlement have failed. Destiny Technology claims the code name created confusion between USL's operating system and its controller software and hardware products with its customers though none of its products apparently bear the name Destiny. Destiny Technology president Gary Cheng called USL's alleged infringement "a clear example of improper usage of our assets including intellectual property." Destiny Technology's suit demands that it be paid "all profits, gains and advantage" the three defendants have realized "since commencing their unfair and competing activities" and reimbursed "all damages" it sustained from their "infringing actions and acts of unfair competition including loss of sales and advertising expenses necessary to dispel public confusion." It also asks that the trio cease using the name, correct any public misconceptions, destroy all papers mentioning "Destiny" and pay attorney's fees. A spokesman for Destiny Technology said settlement talks fell through because they "were not moving as rapidly as they could have." Destiny Technology reportedly sent cease-and-desist notices to USL in March, April and May of last year before the operating system was formally introduced as SVR4.2 in June. Each time, it says, USL said all references to "Destiny" would be eliminated. The plaintiff claims USL took insufficient remedial action. Destiny Technology, which says Destiny is its trademark, recently defended a successful action against DeliveryMan Corporation, a New York software company, for using Destiny Technology as its corporate name. USL counsel Sandy Tannenbaum dismissed the suit as "frivolous," saying it was unclear what the company really wanted. Destiny Technology wanted a press release sent but the wording was an admission of wrongdoing USL was unwilling to make. He also questioned whether Destiny had clear rights to the mark since he said USL's search showed a number of companies have registered it.

DUN & BRADSTREET MAKES ITS NT MOVE

As expected (UX No 429), Dun & Bradstreet Software Inc and Microsoft Corp last week signed a joint-development and marketing agreement to move SmartStream, D&B's account and decision support client/server software, to Windows NT and SQL Server, NT's desktop database front-end from Sybase Inc. SmartStream provides data access, distribution, presentation and development functions for managing purchasing, asset management and manufacturing systems. It includes the SmartStream core decision support software, Financial Stream, HR Stream, Distribution Stream and Manufacturing Stream. SmartStream for NT is expected to ship in the autumn. In addition, D&B will resell Microsoft's Access database as an embedded SmartStream application whilst Microsoft will license a beta NT version of SmartStream for worldwide internal use. D&B launched Unix versions of the software for Hewlett-Packard Co's HP-UX and Data General Corp's DG/UX in February, and is currently developing application programming interfaces for Unix and Windows NT to ensure user access between both environments.

EOS SHIPS SPARCSTATION CLONE IN FIVE GUISES

Having abandoned Sparc compatibles as unsaleable, EOS Technologies Inc has just started shipping the first full production fabrication of its new third-generation EOStation 1030L, a performance clone of Sun's Sparcstation 10 Model 30. It is the first member of the company's L-Series SuperSparc line using LSI Logic's ASIC chipset and Texas Instruments Inc's 36MHz chip on an EOS-designed PCB layout. It comes in five configurations: System Upgrade Kit, Base System, Server Ready System, Supermini Desktop Server and Standard System Package. The L-Series motherboard fits into the Sparcstation 1, 1+ and 2 formats so EOS can provide a plug & play upgrade path from older Suns. The Standard EOStation 1030L comes with 32Mb ECC memory, 424Mb high density drive, 1.44Mb floppy, 19-inch colour monitor, GX graphics, Sparc 2-style chassis and shrinkwrapped Solaris 2.1. The Base System loses the HDD, monitor, GX card and ECC memory. The Server Ready comes with the Base features plus 32Mb ECC memory and 424Mb HDD. The Supermini Desktop Server replaces the 424Mb HDD with a 1Gb HDD. EOS is also getting its first 40MHz 1Mb Super-cache SuperParc CPUs ready to ship this month. The EOS 1041L models will be the same configurations as the 1030L. EOS is still tusseling with the fact that shrinking the board's size reduces the number of memory banks it fits from eight to six. Also while the L-Series boards were designed to provide two Mbus and four SBus connections, when using the SS2 chassis, the height restriction doesn't allow for the second bank of Mbus and SBus slots. The company is currently designing a new chassis to provide full mechanical functionality, expecting it to ship in June. Also in the works and due out in June are the LS-Series EOS SuperSparc workstations. This set of models (1030LS, 1040LS, 1041LS, 1052LS) are to be exact duplicates of Sun's Sparcstation 10 line in performance and mechanical functionality. The L-Series systems are targeted to list at 20% less than Sun on all models. The company is selling largely direct domestically; in Europe, Canada, Asia and Australia it's going through resellers. It has opened a preliminary EOS Europe office and its EOS Korea has been in full operation for six months. EOS also offers a Sparcstation 2 clone, the EOStation 10L, not a focus product. EOS' pet research and development project is a slickly designed prototype transportable, 1280 x 1024 16-inch diagonal gas plasma monochrome flat panel display SuperSparc machine that weights under 20lbs with a desktop footprint of about 9 inches by 6 inches and depth of 3.5 inches minimum to 5 inches maximum. However it isn't scheduled for production until EOS can develop a colour solution.

IONA CLAIMS ORBIX IS "FIRST FULL OBJECT REQUEST BROKER"

Iona Technologies Ltd will unveil Orbix - described as the first full implementation of the Common Object Request Broker Architecture - at the Object World trade show in June. Colin Newman, business manager of the Dublin, Eire company acknowledges the other object managers already in the market from the likes of Hewlett-Packard Co and Hyperdesk Inc, but argues that Orbix is the first CORBA-compliant one to be built from scratch and as such scores in terms of size and efficiency. Moreover it is the first to offer direct hooks to the C++ programming language and last week, Iona, Sunsoft Inc and Hewlett-Packard made a joint submission to the Object Management Group proposing a standard C++ CORBA interface. Iona sees US-based in-house software developers as its largest market. Prices have yet to be set, but the company says that it is looking at \$3,000 to \$5,000 for a development kit and around \$100 per user for run-time use.

OPEN VISION TO FIGURE IN COSE PLANS

OpenVision, the unusual nine-month-old start-up with \$25m in funding and a \$12m revenue stream, made its formal debut last week as anticipated (UX No 433). The company and its 15 systems management products, which will be integrates together as Open V*OPSS by the end of the year, may become central to COSE's systems management efforts. Unix System Labs president Roel Pieper, a member of the COSE anschluss, predicted USL's partnership with OpenVision will "be able to drive the COSE effort in systems management forward" by establishing common tools and technologies. OpenVision came to its debut armed with a licensing agreement with Hewlett-Packard Co, a reseller agreement with IBM Corp and Sun Microsystems Inc and on-going discussions with the Open Software Foundation, Tivoli Systems Inc, USL about technology exchanges and a chair on X/Open's network security committee and working relationships with Informix and SHL Systemhouse. OpenVision's technology is aimed at managing large geographically dispersed networks of heterogeneous computers with controls similar to those found on mainframes. Its solution is derived from an architecture that integrates disparate products and applications around an event-drive core providing an automated "alarm" system activated in anticipation of a user-defined problem and takes immediate action. The product strategy is combined with fixed-price package services that provide a "no-shelfware" commitment that OpenVision's products will be successfully installed and functional within a predictable budget.

MATISSE TO GO UP ON KENDALL'S OSF/1

Object Databases, the US arm of France's Intellitic International, this weeks expects to announce that it has started porting Matisse, its object-oriented database, to Kendall Square Research's KSR/1 family of general-purpose highly parallel systems based on OSF/1. The Kendall port should be ready at the end of the year. The company is also having discussions with Hewlett-Packard Co and Digital Equipment Corp. Matisse claims to be a production system fit for mission-critical heavy load transaction processing environments. For the last eight months it has been in use at a \$10bn nuclear reprocessing facility in France with no hiccups, according to ODB president Jeff Sutherland. The application captures all sensor readings in real time and stores them for 30 years as required by law. The Matisse Server Engine will support up to hundreds of users in a client/server environment. The US National Institute of Standards and Technology (NIST) has used it to increase performance of robotic factory operations. It is also in the running to handle a 100-user 5GB card catalogue at the new French national library up against Sybase, Oracle and Adabase. Matisse guarantees consistency of data through two-phase locking for data update. Using object replication, it automatically generates duplicate versions of objects on multiple disks with negligible overheads. When a disk fails, objects are re-replicated on remaining disks and the system becomes fault-tolerant again with replacing the failed disk. The Matisse client software incorporates a micromodel for ease-of-use that will reportedly support any data model and includes an object-oriented template for integration with other applications.

GATES - WHY WORLD IS WAITING FOR NT

Addressing the Computer Journalists Club in Paris last week, Microsoft Corp boss Bill Gates acknowledged newly emerging client-server applications and the rise of personal computer technology in corporate computing, but said the missing element in making all these applications work easily is a proper operating system. "Windows was not considered robust enough, Novell's NetWare was considered good for sharing files but not for these new applications. Then there are the many forms of Unix which, unfortunately, are not compatible with each other, so you have to choose one hardware supplier, which means a lot less choice. None of the three choices was ideal." Windows NT, he said in a shameless publicity spot, "is really taking the best of the three - Windows, network operating systems and the workstation or Unix world and pulling those together." He predicted Microsoft will sell 1m copies of Windows NT in the first four months after it is released this summer, but that the time between NT's introduction and its arrival as "the dominant operating system" will be as long as three years. "We're not trying to set unrealistic expectations. Now if you come from the Unix world, 1m is a huge number," he said. "It's five times what Sun has ever sold as the most successful Unix vendor. If you come from the world of MS-DOS or Windows, 1m is not that big, because we sell over 1.5m copies of Windows and over 2m copies of MS-DOS every month." He also quipped that, since NT stands for New Technology, "we will will have to change that when it's a few years old." On competition, he said "the second biggest software company is Novell, and on the server, which is one of the areas in which I expect NT will be very successful, they have a very high market share. So if you want to look for a short-term, meaning 18 months, competitive battle that will be the most interesting, the server battle between NT and NetWare will be a major area of competition."

NQUE'S UNIX-ON-WINDOWS BID

The initial pieces of nQue Technology Corp's Unix-on-Windows OpenAgent software - see front page - include the two-user Destination, the Unix SVR4.2 binary execution platform, the utilities and the graphical desktop interface, and Connection, the networking and multiuser sets. nQue envisions these first two pieces appearing simultaneously on retail shelves priced at under \$300 each and distributed on CD-ROM. Follow-on products include Generation, a development set, Transaction, with Tuxedo and an auditing set, and Projection, with the Open Software Foundation's DCE and DME technologies. nQue's distribution strategy puts OEMs first and retail channels such as CompUSA six months after. Unix System Laboratories, whose SVR4.2 nQue licensed as its Unix system, reportedly has right of first refusal as an OEM channel. nQue says USL is waiting to see how the system shapes up. nQue sees USL making OpenAgent technology available to its OEMs, such as Univel, as an installation option for SVR4.2. To run, OpenAgent needs a 33MHz 386DX box with 16Mb or better a 33MHz 486DX with at least 8Mb. The hard disk should be an 80Mb IDE or larger with a network install option, a 200Mb SCSI is optimal. OpenAgent Destination needs Windows 3.x and MS-DOS 5.0. OpenAgent Connection may require Windows for Workgroups to take advantage of its management interface or Windows 3.1's follow-on Windows 3.2. nQue figures its marketplace is the downsizing scientific and engineering workstation user, the rightsizing PC workgroup and the up-sizing PC power user. Interesting William Thompson, nQue's founder and an old Unix soldier, developed the key technologies in Lachman Associates' Stream-based NFS and TCP/IP while at Convergent Technologies and later joined Lachman. Lachman president Ron Lachman was of course the force behind the creation of WABI, Sun's Windows-on-Unix solution due out this week. David Van Daele, a Lotus alumnus, who was once vice president, sales and marketing at Digital Research Inc and chief architect of the DR-DOS' retail strategy is a member of nQue's board. He believes the product would give Univel a competitive advantage and be a "no brainer" for Windows users.

IBM DUMPS VERSANT, OBJECTIVITY, FOR OBJECT DESIGN WITH EVERYTHING, BUYS STAKE

IBM's Programming Systems Division last week announced a strategic partnership with Object Design Inc and says it will use the Burlington, Massachusetts-based firm's ObjectStore object database for all of its future object-based application development. To cement the deal, IBM has bought a \$27m equity stake in the firm - Philips and Eastman Kodak also have holdings. IBM plans to use ObjectStore in more than 50 object projects it is currently working on. Products will begin shipping by the end of the year, according to IBM's vice president of software engineering, Irve Trager. First up will be a central object-oriented repository for AD/Cycle, now renamed the Application Development Platform (ADP). ADP is IBM's troubled attempt to develop a complete LAN-based application development environment for client/server systems - IBM failed outright with AD/Cycle for MVS, and abandoned it last year (UX No 353). An ObjectStore repository for Information Warehouse, IBM's corporate software architecture for accessing data across System Application Architecture platforms, is also planned. Future workflow management, document management and compiler tools will implement ODI technology. ObjectStore will also feature in IBM's Distributed System Object Model (DSOM) - an object-oriented schema which provides a common mechanism for communicating between objects. IBM intends to integrate parts of ObjectStore with DSOM to help in the identification and storage of persistent and non-persistent data. It will also use ObjectStore to recognise code, data and objects written in different programming languages. Sun Microsystems Inc's Distributed Objects Everywhere (DOE) project also uses aspects of ObjectStore. Object-oriented versions of AIX and OS/2 will also use ObjectStore subsets, and ODI is currently negotiating to get its stuff into the IBM/Apple Taligent Inc object operating system effort. IBM and ODI plan to develop a series of products linking ObjectStore to IBM's range of databases. First is an object-oriented interface between ObjectStore and DB/2 to allow users to view relational data without using SQL (Standard Query Language) commands directly. To do this, an interface will be built to IBM's database access technology, the Distributed Relational Database Architecture - support for third party DRDA-compliant databases will follow later next year. An SQL gateway will follow. IBM's existing object projects and software using technology from companies such as Versant Object Technology Inc and Objectivity Inc will be moved to ObjectStore in their next releases.

HP TEAMS WITH BANYAN

Hewlett-Packard Co has teamed with Banyan Systems Inc to put Banyan's Vines and enterprise network services up under HP-UX Unix on Precision Architecture machines, and provide Vines users with easier means of using HP printers with a network adaptor to work with the new MIO interface.

CONVEX TAPS HP-UX APPLICATIONS BASE FOR PARALLEL BOX

Convex Computer Corp and Hewlett-Packard Co last week said they are hotting up the alliance that saw Hewlett take a 5% stake in Convex last year with a potentially substantial technology exchange to plug the massively parallel applications gap. Convex is building a massively parallel system out of HP's Precision Architecture RISCs, and under the new agreement, will swap its parallelising compilers for Hewlett's HP-UX implementation of Unix so that it should be a relatively straightforward task to adapt the 4,000 HP-UX RISC applications to run on the planned Convex machines. In the context of the agreement, analysts were quoted as suggesting that acquiring a software base for a new supercomputer has traditionally been the biggest drag on sales, and doubting that Convex and HP had cracked it - but up to now there has been no massively parallel machine that is both hardware- and software-compatible with a big existing applications base. Convex's plans call for a massively parallel machine that will be scalable to TFLOPS performance, in an air-cooled, stand-alone, general purpose system. The company is aiming for three generations of products over the next few years. The first generation will be scalable to 128 processors with up to 25 GFLOPS performance, expected to be available in first half 1994, and the firm aims to improve performance by at least an order of magnitude per generation. The operating system will consist of three components: HP-UX; the ConvexOS environment; and a hardened implementation of the Open Software Foundation's I/AD Mach microkernel - running HP's Visual User Environment front end - developed specifically for massively parallel systems. The machine will ironically be more compatible with HP applications than Convex C Series ones, but it will be source code-compatible with the latter - an applications base of 1,300. The Convex Application Compiler will have automatic interprocedural analysis capabilities to provide a high degree of optimisation from existing applications. Critical applications will be able to be further optimised with the advanced parallel environment to be provided with the planned scalable parallel processing systems. The multiple instruction-multiple data scalable parallel processing system will support a shared memory programming model called global shared distributed virtual memory to provide a Fortran and C programming model very similar to current production supercomputers. The system will also support message passing models such as parallel virtual machine and the high performance Fortran extensions of Fortran 90. In September 1992, Convex founded and sponsored the Scalable Computing Working Group of scientists and engineers from industry, academia, and research: it meets quarterly to advance scalable algorithm and application development, and currently has some 40 members. In addition to HP-UX, HP will provide a suite of standards-based libraries, commands, and utilities including Motif, X Window System, software distribution and system administration utilities. Convex says it is enhancing the Mach 3.0 microkernel with faster input-output capabilities and parallel processing extensions in a scalable architecture.

IBM "TO PUT VERSION OF DB2 DATABASE UNDER NT"

IBM Corp's dismantling of the Armonk politburo to follow Chairman Mao's "Let 100 Flowers Bloom" dictum has really let the genie out of the bottle, and *Infoworld* has been talking to consultants that say the company is planning to enter the tents of the enemy by putting a version of the DB2 database up under Windows NT. It is not clear whether the effort involves simply the client end or the full DB2 - both have just been announced for AIX Unix on the RS/6000. Consultants told the paper that IBM has been dissecting the two most recent pre-release versions of NT at its Toronto labs to assess the time and money that would be required to do the implementation, and reckon a product could arrive at the turn of the year. The move is bad news for IBM Personal Software Products in its efforts to get OS/2 2.0 established, because many corporate users have gone for OS/2 specifically for its relatively easy integration with mainframe DB2.

HP ADDS SOFTBENCH 3.2, VERSION FOR SOLARIS 2.1

Hewlett-Packard Co has taken its SoftBench software development environment up to release 3.2, which adds the SoftBench Message Connector mouse-driven task-automation tool - and announced that SoftBench 3.2 will be available under the Solaris 2.1 operating system from SunSoft Inc. SoftBench Message Connector will be bundled with SoftBench 3.2 for Solaris 2.1, HP-UX and SunOS 4.1.X operating systems and is available with the SoftBench Framework. Other new capabilities for Solaris 2.1 include the Distributed Debugger Environment and embedded SQL support to access databases in C or C++. SoftBench 3.2 for C is \$2,300, for C++, \$4,500.

SYBASE LAYS FOUNDATIONS OF A NEW MARKET? Gary Flood reports

Last November, Emeryville, California, based Sybase Inc began outlining its next generation relational database management system database server and tools suite, System 10 (UX No 410). At the time the name seemed just too obviously a snipe at rdbms rival Oracle Corp, which began rolling out its delayed Release 7 over the course of 1992: Sybase's current release name is 4.9, and there seemed no logical reason to start calling anything out of the fast-growing system software supplier's warehouses "System 10." Now things begin to make a little more sense. "We decided to call it System 10 because we wanted an order of magnitude improvement," claims Stu Schuster, vice president of marketing, speaking at last week's announcement of the availability of seven components of the 11 System 10 database server family products (more details of the tools components will come later in the year).

Sybase claims to have launched the client/server market itself with the release of its Open SQL Server and Client products in 1987: now it sees itself launching a further market, enterprise client/server, mainly for mainframe customers downsizing to new platforms, as opposed to the departmental (and usually Unix or VAX/VMS) first generation of SQL-based database system. The foundations for this new form of client/server computing are claimed to be found in the following System 10 vision. At the bottom level sits the SQL Server engine itself. Above it are three products fulfilling the role of distributed system management; the OmniSQL Gateway, detailed last month, is designed to provide interoperability between a number of non-Sybase and non-relational systems, and the Replication and Navigation Servers. Above this layer sits a set of open client/server APIs, Open Client, Open Server and Embedded SQL. Orthogonal to the database server layers are a set of control servers, for back up, monitoring, and administration.

What all these elements are supposed to do is answer what Sybase claims are the five big reasons users are unwilling to finally go all the way with open systems as opposed to host or legacy solutions. First, they need a well proven advanced technology to minimise the risk of moving from a departmental system supporting up to maybe 100 users to hundreds if not thousands of users. Secondly, they want scalable systems for immediate high capacity of data storage with low entry cost. They also want to move from single function, stand alone and relatively simple to administer departmental or small solutions, to corporate wide, integrated and larger versions which will be harder to administer. They want (or need) interoperable systems to take advantage of heterogeneous, multi-vendor architectures, with reliable data and transaction delivery, controllable from a single location, supporting up to hundreds of Gb of data. Some wish list. Sybase says this is what Unix and distributed systems need, however, if they can really challenge the mainframe. And, you guessed it - Sybase can give it to you! Or at least some of it, in beta, right now, and the rest later in the year (in beta again). Of the eleven System 10 elements, some are new, some have been developed with technology partners such as NCR and are revamped older products. Seven were announced at the company's well attended (1,800 turned up instead of the expected 1,000) 5th annual international user group show in San Jose, California, last week. Announced were: a new, and supposedly high-performant and OLTP friendly version of its database engine, SQL Server; enhanced versions of the Open Client and Open Server offerings, plus the Embedded SQL for SQL C, Cobol and Ada precompilers; and new and enhanced control servers, the technology Sybase argues customers need to control distributed applications, Sybase Backup Server (with backup, loading and recovery facilities, database consistency checking three times faster than in the previous release, and bulk loading of data - now capable of loading up to 1Gb an hour, and claimed to be seven times faster.

Standards

For vendors and users committed to standards, often said to be a weak spot in Sybase's message, System 10 is supposed to be so standards friendly you'll fair quiver with joy. The promise is to provide standards transparency instead of picking one (or any of the five million we've come up with so far). In terms of programming an interface to System 10, existing Sybase DB-Lib API library codes or embedded SQL precompilers will talk easily to the new and simplified CT (for client) Lib - with only 50 instead of 350 calls, this should be simpler. The client application, can, however, talk through the X/Open XA, ESQL, Microsoft ODBC or other APIs as desired. To talk to the network software layer in the Open Client, the application will then work either through Sybase's proprietary tabular data stream protocol or other protocols Sybase says it will support, in particular, IBM's DRDA, the Open Software Foundation's RDA and Borland's emerging IDAPI. It also notes the Open Software Foundation's DCE RPCs are becoming more popular, and may be supported. Open OLTP monitors, including IBM's CICS/6000, NCR's TopEnd, AT&T's Tuxedo and Transarc's Encina, will be supported as part of the X/A Distributed Transaction support - no matter that few customers seem to have built many applications in anger with such products, Sybase says it just loves standards to death these days! In fact, with it supporting the very latest ANSI/ISO SQL-92 standard, it's so standard it's more standard than anyone else. With OmniSQL Gateway already in beta, three more important products, and in some ways the most interesting, and yet to be unveiled: the Replication, Navigator and Configurator servers. These will handle reliable distributed data and transaction delivery, scalable parallel processing and capacity planning and design for database environments.

The seven announced products are to be shipped on HP 9000, IBM RS/6000, NCR System 3000, Sun SunOS, Sun Solaris, DEC VAX/VMS and DEC Alpha VMS in 1993. After 90 days 12 other platforms will be supported: Data General Avion, DEC Alpha OSF, Motorola, NEC, Novell NetWare, Pyramid S Series, Sequent, Silicon Graphics, Stratus FTS and VOS and Unisys U6000. The twelfth is notable: for the first time (UX No 430) Sybase will be available on the ICL DRS6000, ending a long and tense stand-offish relationship between it and ICL formerly wedded to the Ingres toolset, and Sybase, and joining rivals Oracle and Informix on the ICL Unix platform. And in 1994, expect an IBM OS/2 and Microsoft Corp Windows NT port "when NT has settled down a little bit," says Schuster. Prices of the product set range from \$290 to \$256,000 with the Backup Server bundled with SQL Server 10 at no additional cost. At the conference three companies were enlisted to back up Sybase's pitch: Andersen Consulting, up and coming US client/server human resources and financial applications provider PeopleSoft, Bachman Information Systems and BP Exploration, the first representing VARs or system integrators and the latter end-users. All outlined how fab System 10 was, and how it would help them, with PeopleSoft rooting for database cursors and the new Open Client because it wants to offer customers better performance, distributed data management, system administration tools and very large database support, and Bachman promising to support System 10 - well, because it just liked Sybase so much. (Its presentation was a sales pitch for the relatively beleaguered ex-AD/Cycle company, and was the most content free.) Andersen's Mark Miller described the Passenger Revenue Accounting System built by Andersen for North West Airlines between 1987 and 1990 and now being customised for Delta and three other US carriers - a huge mainframe and workstation system with the North West application handling around 90Gb of data (80% of which is host-based DB2, the rest Sybase). Miller described how the original system users 1,000 mainframe Cobol programs and 75Gb of data on a DB2 DASD data farm, with 400 plus Sun SPARC workstations running C application code and 15Gb of Sybase-held data. The new carriers are being offered a slimmed down, mainframe fat-free version: between 10 and 20 SPARC 10 Sybase database servers (with up to 18Gb per server) replacing the mainframe, a set of batch servers with up to 4Gb of flat file space per server and a range of on-line application server Sun workstations running Sybase Open Client. Delta will have about 180Gb of data, all in Sybase, for their implementation; the other three combined, again all Sybase, 320Gb. The north West application is said to handle 200,000 transactions a day - Delta want 400,000. Phew. How can System 10 help? Miller picks out data backup and integrity enhancements as areas System 10 can make the system easier to manage. Two hours of every night can be spent backing up data: Miller demands System 10 improve this by an order of magnitude. And since every table in the application has triggers for primary and foreign keys and last update id and data information, he thinks 80% could go if the promised integrity enhancements features work.

Invisible

So with System 10 offering high performance OLTP support, standards transparency and distributed large database application control, roll over Oracle, hand in your keys Informix and lights out Ingres? Well...not quite. Though no-one can deny Sybase's recent figures aren't fabulous, Informix is doing well, too, and Oracle is still several times as large. For a reminder of some market realities, look at Sybase in the UK. In an eerie reversal of the situation in the North American market, Oracle's next biggest competitor isn't the plucky standards-hot Sybase but virtually legacy operation Ingres, currently owned by ASK Group. Sybase has done very well in financial markets and companies in Wall Street and the City, mostly because for a long time it could offer facilities such as triggers and stored procedures that Oracle couldn't. Outside of the Square Mile, it's practically invisible in the UK rdbms market, where Oracle runs unchecked, Ingres still does well on the back of its ICL agreement into local and central government, and Informix, while selling like hot cakes, still mostly shifts its C-ISAM and Standard engines, not the high ticket OnLine. Changing that is partly the job of recently headhunted former Oracle staffer John Spiers, now marketing director for Northern Europe. He's got a lot to do. System 10 may well help change that, but Sybase can't play the triggers now: everyone else, and even Oracle in System 10, has caught up with such features now. Moving the game to a new playing field is a great idea, but you need not only another team to play against, but some spectators to pay at the gate. But at the moment, technologically, Sybase can do no wrong. Let's hope for its sake that the customers really do want to build the huge and ambitious downsized applications System 10 is for.

POWEROPEN WILL HALT APPLE'S A/UX

Apple Computer Inc will roll out an enhanced version of its A/UX Unix operating system in June. Derived from AT&T Unix System V.2.2 with BSD 4.3 enhancements. There won't be many more iterations of Apple's Unix effort before the PowerOpen environment running on Apple PowerPC RISC boxes supersedes it. Apple will continue to support A/UX on its 680x0-based systems, but will be pushing PowerPC/PowerOpen-based systems into these markets. The enhancements to A/UX release 3.0.1 are already available on Apple's Unix server line, but things like asynchronous input/output, large buffer caches and support for 500Mb and 1Gb drives will now be available as part of a general release. Apple says A/UX customers are demanding more CPU performance and will be able to get it through PowerPC. The basis of PowerOpen - the operating system which will run on the Apple/IBM/Motorola Inc PowerPC RISC - will be based upon IBM Corp's AIX Unix, probably version 4.1. It will be compliant with the OSF/1 operating system, but does not include the Mach microkernel, a point Apple is adamant about, as it has yet to make up its mind on the issue of microkernel strategy.

Mac-in-a-box

Meanwhile, Apple's Macintosh Application Services software for PowerPC includes a native implementation of the Macintosh Toolkit and allows well-behaved Macintosh applications to run within an X-Window on PowerPC and IBM Rios RISC machines. It is not a full operating system implementation and so far only IBM has signed for what observers have dubbed "Mac in a box." The version unveiled at the PowerOpen roll-out (UX No 427), used AT&T-backed start-up Echo Logic Inc's binary-to-binary translation of the 680x0 into native PowerPC code. Echo Logic is expected to debut its FlashPort tools at Apple's developer conference next week (UX No 433) - Apple says won't be offering the Echo technology directly. Although the company used FlashPort to create a native version of ToolBox for PowerPC, Apple's David Payne, engineering project leader for PowerOpen on Macintosh systems, says it will use internal emulation technology to bring current Mac applications over to PowerPC, although he concedes the Echo software can do the job too. Payne says the advantage of using emulation over binary-to-binary translation is that ISVs do not have to tinker with their applications one iota to get them up on PowerPC, they just run, although some performance is lost. "If there are no special performance requirements then emulation is fine. If higher performance is needed, then binary-to-binary translation may be required," says Payne. ISVs will be able to use Echo technology for this purpose. Apple is currently thought to be working on two efforts to move the production version of the Mac environment onto the PowerPC, one using a large amount of emulation, the other a large amount of translation. Those working on the PowerPC version of Mac, as opposed to the provision of a Mac environment within an X-Window under PowerOpen are thought to favour emulation (UX No 427). Mac applications should run in an X-Window on any PowerOpen application programming interface-compliant implementation on a PowerPC system. The diagram below shows how Macintosh functionality will be feature under PowerOpen. The mixed mode switcher can flip between 680x0 and PowerPC applications, allowing either to run. Translated code (ie the ToolBox) is regarded as native code.

680x0 applications	Mac Finder	PowerPC Mac applications
Mac ToolBox	680x0 emulators	Mixed mode switcher
Macintosh System Services (Plus X-Windows Macintosh System services)		
PowerOpen		

HP ADDS BOARD-LEVEL HP9000 742i

Hewlett-Packard Co has now introduced its most powerful VMEbus board-level computer yet, and calls it the HP 9000 Model 742i. The new computer is based on the 50MHz PA-7100 version of the Precision Architecture RISC, rated at 61 MIPS, and joins the company's family of industrial computers. It is bundled with HP-UX Unix and is designed for system integrators and the OEM market in manufacturing, aerospace and defence. It fits into two 6U VMEbus slots, enabling the Model 742i to outperform multiboard computers, which typically have more intensive development and support requirements, the company claims. It offers standard VMEbus interface option, eliminating the need for a separate controller board. With 16Mb of memory - going to 32Mb or 64Mb - it is \$8,800 and has on-board local net work connector, a Centronics parallel port, two RS-232-C ports and an SCSI-2 SE port; the bundled HP-UX 9.01 operating system carries a two-user licence.

BULL UNVEILS ITS ANSWER TO IBM'S AD/CYCLE

Compagnie des Machines Bull SA last week introduced what it says is the "last major component of the Distributed Computing Model," an integrated software engineering environment called PCTE-based Integrated System Development (ISD). Bull is positioning ISD against IBM's promised but undelivered AD/Cycle (UX Nos 433, 353, 338), and says it'll ship a client/server implementation in July. AD/Cycle is due for release in the second quarter 1994. The first version comprises a repository based on Programming Common Tools Environment technology from GIE Emeraude, Louveciennes, and the Neutral Information Model (NIM), which in turn is based largely on the Exchange repository interfacing technology from Software One Ltd, Marlow, UK. ISD will initially be available for Unix, Bull's GCOS and IBM MVS systems. The PCTE repository and the Neutral Information Model are the key components of ISD and allow different tools to share data across distributed environments. To achieve interoperability, information is fed into the PCTE repository via NIM, which captures data, tools and even parts of applications in a neutral format, irrespective of design, methodology or programming language. An exchange data interface provides a bridge between the tool and the information model to do this. Other ISD features include a OSF/Motif and Microsoft Corp Windows graphical user interface and a control integration system based on IBM Corp's SDE WorkBench/6000 - which is derived from Hewlett-Packard Co's SoftBench. Integrated System Development is now available for beta test. Among the primary analysis tools the first version supports are those from Bachmann Information Systems Inc, KnowledgeWare Inc and Intersolv Inc. To start small, a Cobol application development environment with compiler, development and debugging tools is priced at \$15,000. A beginner's repository plus two tools would cost \$50,000 or so, which includes a workstation and the software; then the user would need between one to four weeks of consulting. There was also a new release of Bull's Integrated Systems Management software, which includes new Unix functions such as back-up and restore facilities, trouble ticketing and Bull's BOS/TP Tuxedo-based transaction processing monitor. It also supports Oracle7. BOS/TP extensions include upgrades to Tuxedo 4.2, GCOS 7 mainframe support, Oracle7 and the Informix Corp transaction tool kit. The O2+ object database is now supported on the Rios-based DPX/20 Unix systems. And Bull also has new DPS 7000 702 and DPS 9000 500 mainframe models.

INFORMIX STRIKES LESS FANCIED UNIXES OFF LIST

Informix Corp has decided to hedge its bets, and broaden its definition of open systems - as a result, its relational database will, in future, no longer run purely under Unix, but also under Microsoft Corp's Windows NT and Novell Inc's NetWare. If the Unix versus NT struggle ends in a bloodbath, it at least the company will not have all its eggs in one basket. Director of product marketing for engines, A J Brown, realises that, when compared with other database vendors, the Menlo Park, California-based company is late in announcing its move to NT, but said it wanted to be sure there was enough customer demand. He also added that there was an element of fear involved - vendors must respond to Microsoft, he said, because the firm may well become "the IBM of the 1990s and beyond". The group's high-end Informix On-line database, however, will not be available under NT until the first quarter of 1994 because of the added complexity of the product. NT tools will appear at the same time, although drivers for Microsoft's Open DataBase Connectivity tools, ODBC, should be released during the third or fourth quarter of 1993. Brown reckons NT will be more popular on client machines initially - "Microsoft is not a server company". The decision to convert for NetWare is customer-driven, he said - with NetWare's 60% to 70% market share in both Europe and the US, Informix can be sure that Novell's operating system will be running in at least one department in the majority of companies. While there will be a delay of between four to six months before the NT and NetWare releases become available, Brown reckons that by 1995, or three versions of the database on, Informix should be able to launch the three versions simultaneously. He also expects the three versions to be interoperable by 1995. Informix's standard database engine generates about 40% of revenues in the US and the On-line product the remaining 60%, the reverse is true in the UK. While both databases run in 30 separate environments, only about eight or nine of these generate between 85% to 90% of worldwide turnover. So, over the coming year, the company plans to reduce its number of supported environments to 10. This includes IBM Corp, Digital Equipment Corp, Hewlett-Packard Co, and ICL Plc's Unix machines. Informix has strategic agreements with all of the above. But the deal with Hewlett-Packard Co may well have far-reaching results. In the first quarter of 1994, the company intends to release a new version of its fourth generation language, 4GL++, which will have object-oriented extensions. If there is any demand, it may well add Hewlett-Packard's object database management system, OpenODB, alongside of its own On-line product.

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Pyramid Technology Corp has reported second quarter net profit of \$1.4m against a loss last time of \$7.2m, on turnover up 34.5% to \$58.0m. Mid-term net was \$1.9m against a loss last time of \$25.7m, on turnover that rose 22.2% at \$113.1m. Net per share was \$0.12 in the quarter, \$0.16 in the half. Pyramid notes that it is scheduled to begin shipments within the next six months of its next-generation high-end symmetric multiprocessing product line, based on the **Mips Technologies Inc R4400 RISC multiprocessor**.

Concurrent Computer Corp says it has signed up **Cranfield Data Systems Ltd** in the UK and **Istar SA** in France to market complete systems for the dynamic analysis and vibration control sectors of the Measurement and Control market using its Series 7000 real-time Unix systems.

Santa Cruz Operation Inc's prospectus for public offering indicates it will offer an initial 6m shares, 3.6m of them new, with 1.2m to be sold outside the US, at a target price of \$12 to \$14 a share; it doesn't give any plans for the \$14m or so net proceeds. Underwriters are **Goldman, Sachs & Co** and **Donaldson, Lufkin & Jenrette Securities Corp**. **SCO** will launch **Open Desktop 3.0** on May 18th.

Denver, Colorado-based **Unidata Inc** is to integrate **Transarc Corp's** OSF Distributed Computing Environment-based Encina transaction processing monitor into release 4 of its UniData database due mid-1994. +1 303 294 4848. Meanwhile, **Powersoft Corp** is to interface its **PowerBuilder 3.0** environment with a Windows version of Encina, allowing users to build **PowerBuilder PC** clients for Encina-based distributed OLTP environments.

Santa Cruz Operation Inc has moved its director of product management, **Grover Righter** - a former **Univel Inc** vice president of engineering - to the position of vice president, product management.

Reports say **OSF** is now negotiating with oil industry users in the **Petrotechnical Open Software Corporation** on a range of new initiatives.

IBM is expected to ship **OSF Distributed Computing Environment for OS/2 2.0, 2.1** and **Windows 3.1** in the summer - **DCE for MVS** should be complete by year-end - whilst **Novell Inc** is readying a **DCE NetWare** loadable module which will allow **DCE** clients to see **NetWare** files.

Intel Scientific is readying a plan to get low-end versions of its **i860 RISC-based** massively parallel systems into universities and other sites that can't afford the full-blow **Paragon XP/S** models: **Paragon's OSF/1 microkernel** operating system is due this month.

Financially troubled **Sequoia Systems Inc** says it is no longer looking for a buyer - it didn't get any acceptable offers in the first place - and is talking to minority investor **Hewlett-Packard Co** about new funding to get development its **PA-RISC-based** fault tolerant machines back on the tracks.

On the threshold of the **WABI** announcement this week - see front page - doubtless its most famous product, **SunSelect** general manager **Carl Ledbetter** has cashed in his chips in favour of becoming president of **AT&T Consumer Products**, the division responsible for corded and cordless phones, videophones, cellular phones, answering machines and **AT&T** first personal communicator, its **Hobbit-based** widget.

Unisys Corp has named veteran **Ronald Bell** its chief technology officer responsible for defining the company's long-term technology direction and strategy, oversee R&D and investment in key technologies, leveraging core competencies into new products and handling partnerships. He was previously vice president and general manager of the **Unisys' Unix Systems Group** which he will continue to head in an acting capacity.

DEC is importing **Yoji Hamawaki**, the former president and chairman of **BMW Japan**, to be president and representative director of **Digital Japan**. His predecessor **Edmund Reilly** becomes president and managing director of **DEC's 13-country Asia region** based in **Hong Kong**.

Borland International Inc chief executive officer **Phillipe Kahn** told *InformationWeek* that **Computer Associates** wined and dined **Novell Inc** boss **Ray Noorda** in an attempt to acquire the company. **Kahn** said **Noorda** quoted an inflated price and **CA** chief **Charles Wang** and executive vice president **Sanjay Kumar** stormed away from the table. **CA** has also try to get **Borland**, **Kahn** said, going so far as to threaten a hostile takeover.

Univel Inc president **Joel Applebaum** last week in an interview said **WABI** "is not baked yet." He thought it was good for the **RISC** environment but he's content with the **Windows** solution **Univel** is adopting for the **Intel** environment, which is apparently on the brink of shipping. Meanwhile, **Univel** claims to be selling into **Europe, South America** and the **Middle East**.

The X Business Group is organising "X and Beyond," a major **X** industry conference focused on customers' perceptions of **X** and client/server computing. It's scheduled to be held at the **Fairmont Hotel** in **San Jose, California** June 7-8, just prior to **Xhibition**. It cost around \$900. +1 510 226-1075

In the month and a half it's been delivering its high-end **SparcCenter 2000s** **Sun** has shipped 130 systems to paying customers: the firm has reportedly come up with a new **50MHz MPU** module for its high-end **SparcCenter 2000** that adds **2Mb** external caches and improves database throughput from **20%** to **40%**.

Apple Computer Inc and **Novell Inc** have successfully completed their project to bring the **Macintosh** system to mainstream computing, but no decision has yet been made on a commercial follow-up: **Novell** chief financial officer **James Tolonen** says the companies wanted to see whether **Macintosh System** could run atop a different operating system and on a different chip, yet still maintain the user-friendly features of the **Apple** system.

Paris-based **Advanced Computer Research International SA** is designing a massively parallel processor around **DEC's Alpha RISC (UX No 422)**, and will now develop **Fortran 90** compilers and applications for use on parallel systems with **Cray Research Inc. ACSET**, which develops compilers for **Advanced Computer** in **Louvain-la-Neuve, Belgium**, will use **Cray's Fortran 90** front-end technology to create and market **Cray-compatible** compilers for **ACRI** and, eventually, other **European computer manufacturers**. **Cray** will take an equity position in **ACSET**. **ACRI** and **Cray** will convert applications for both companies' parallel computer systems - **Cray** is also designing parallel machines around the **Alpha RISC**. **ACRI** was founded in 1989 by **Jacques Stern**, founder of **Sesa SA** and former chief executive of **Compagnie des Machines Bull SA**, to develop a new generation of **European high-performance** systems for the scientific, technical and engineering markets. **ACRI Alpha** machines are not due until the end of 1995.

This week **SunSoft Inc** is supposed to unveil its latest iteration of **Interactive Systems Unix**, release 4.0. Reportedly its binary compatible with **SCO Unix** and most of the major **SCO** applications will run under it. Some of **SCO's** fringe applications, however, will only run single-user, not networked, on the stuff. **SunSoft** is also supposed to announce new **European distribution deals** and new users like **BMW** for **Interactive Unix**.

It had looked as if **Robert Palmer** was getting **Digital Equipment Corp** back onto an even keel, but now comes cause for great concern. Too many companies decide that if the product is having a tough time in the market, the answer is to change the packaging, and **DEC** is tarting up its famous lower-case "digital" logo, which has stood the company in excellent stead since 1957. The updated logo features "a more contemporary typeface and slight modifications to the spacing of the design's blocks", and the white letters now appear on a burgundy background instead of the traditional blue - and we hope the company gets some very tough questioning at the annual meeting over the cost.

Confused between **Cray Research Inc** and **Cray Computer Corp**? Can't remember which is which? It's simple - you just have to remember that **Cray Research** makes computers and **Cray Computer** does research...

Amdahl Corp is not known as an **IBMulator** for nothing: it too is cutting its dividend - to five cents a share this year from a dime last year, in an effort to conserve its capital base: the company, which reported a first quarter \$240m loss after a \$243m restructuring charge said its revenues were lower than expected because of soft economic conditions and competitive pressure on prices. It also said that while it was committed to the **IBMulator** business, it plans to expand its open systems products line because demand is increasing in that field.

Next week, **Network Computing Devices Inc** will introduce **NCDWare 3.0**, a personal computer version of its **X** server software. The software will apparently replace the firm's current **PC-X** software, **PC-XView** - the stuff it acquired from the **GSS Personal Graphics Inc** acquisition last year (**UX No 331**).

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CAT OUT OF THE HAT: APPLE MAC-ON-UNIXES DUE THIS WEEK

Last week it was WABI. This week the same group of companies that are backing WABI will turn around and reportedly lend their support to what might as well be called MABI, Apple Computer Inc's Mac-on-Unix defence against the forces of Microsoft Corp. Actually, Apple has been porting its ToolBox, the source of the Mac interface, the crown jewels it has guarded so long, over to the IBM Corp RS/6000, Hewlett-Packard Co 9000 and Sun Microsystems Inc Sparc machines under the code name Cat in the Hat (UX No 419). At this week's Software Developers' Conference in California Apple will gather with its new partners and collaborators IBM, HP, Sun and Unix System Labs to announce that Mac programs will be able to run unmodified and uncompiled on their Unix servers and workstations. Apple also intends to provide them with application programming interfaces and other technologies and services to insure Mac integration and interoperability in the multi-platform client/server environment. The move is more or less an insurance policy that Apple will at least have a place as a client in the enterprise. Apple is expected to provide its desktop manager, window manager, Finder QuickTime, QuickDraw GX, TrueType and WorldScript as well as AppleShare, Data Access Language (DAL) and AppleSearch as well as access to AppleTalk and the Apple Open Collaborative Environment.

SUN, MICROSOFT FIRE FIRST SALVO IN WINDOWS WARS

The first salvos in what is threatening to develop into the Windows Wars were duly fired last week. Sun Microsystems Inc's SunSelect formally announced its Wabi Windows applications binary interface which enables Windows applications to run under Unix without MS-DOS or Windows being needed, and Microsoft Corp announced its alliance with UK firm, Insignia Solutions Ltd, High Wycombe, to create Windows applications programming interfaces for the Apple Computer Inc Macintosh and Unix and other operating systems (see page three).

No-shows

Unix System Labs, Santa Cruz Operation Inc and SunSoft will each integrate Wabi into their respective Unix offerings, whilst Toshiba Corp, Fujitsu Ltd, Network Computing Devices Inc, Tadpole Technology plc and Quarterdeck Office Systems have lent their support to the effort. Windows application vendors Lotus Development Corp, WordPerfect Corp, Software Publishing Corp, Aldus, Datastrom Technologies Inc and Borland International gave their blessings. USL has been working with SunSelect on Wabi and is responsible for developing the Windows shell, Wabi control panel, help subsystem, dynamic link libraries that support dynamic data exchange and common dialogue, and ISO Latin internationalisation. SunSelect has licenced Bitstream Technology's font handling technology, allowing Wabi users access to the same TrueType fonts as Windows users. Wabi translates function calls made by Windows applications into those recognisable by X-Windows. A self certification programme for Wabi vendors starts in June - though there are reportedly only a dozen Windows applications up on it and the thing still doesn't print - Wabi 1.0 will be out in the summer. IBM Corp and Hewlett-Packard Co were scheduled to be at Wabi's unveiling as licensees but turned into no-shows. The skuttlebutt says their contracts were not yet signed and that the pair were holding out for better terms and conditions. However, IBM was expected to come forward as a Wabi development partner, like USL, which would automatically make it eligible for SunSelect's most favourable pricing schedule (UX No 432). IBM is understood to regard Wabi as a highly important lever.

Public Windows Interface

At the same time, SunSelect also unveiled its proposal for a Public Windows Interface specification that would bring the Windows applications program interface into the public domain and make it harder for Microsoft to alter it to trip up the competition. It'll also submit the specification to standards organisations and X/Open, which says it is ready to receive the specification. PWI attracted more adherents than Wabi itself, including IBM Corp, Hewlett-Packard Co, American Airlines, Borland International, Corel Corp, ICL plc, Fujitsu Ltd, NCD, Norwegian Telecom, Quarterdeck, Tadpole, The Foxboro Co, SCO, USL and WordPerfect. Originally the Wabi and Public Windows Interface announcement were to be made separately, with PWI slated for May 19. Reportedly there were long discussions over the wisdom of fusing the two together. In the end Sun chief executive officer Scott McNealy had his way and they came as twin cannon shots. Insiders say HP and IBM lawyers have cleared Wabi, figuring Microsoft can't make much of a case. However Microsoft or its new anti-Wabi champion, Insignia Solutions could still sue (UX No 434).

**ADDAMAX EMPLOYEES FORM
SEPARATE COMPANY AS OSF
LAWSUIT HURTS BUSINESS**

All of the employees of Addamax Corp except Addamax president Peter Alsberg have left the firm to form a new wholly independent company as a result of the fallout from Addamax's on-going \$100m antitrust litigation against the Open Software Foundation and OSF founders Hewlett-Packard Co and Digital Equipment Corp. Randy Sandone, formerly executive vice president of Addamax and now president of the new 16-man firm, Argus Systems Group Inc, said that Addamax was finding it impossible to do business because of the lawsuit. The secure software company lost out on the US Navy's Super Mini AFKAC 300 contract a few months ago after PRC, the integrator and lead contractor, "disinvited" it from its bid after teaming with HP for the hardware, Sandone said. Up until then the beleaguered Addamax stood to win no matter how the government decided since it was being bid by both PRC and its rival Control Data Systems. Sandone said that there were other instances of lost business directly traceable to the suit. The suit also poisoned potential investors against Addamax which needed more money to exploit its technology, he said. Argus, which is employee-owned and unaffiliated in any way to Addamax, has taken a royalty-based licence to Addamax' Compartmented Mode Workstation (CMW) technology and will develop, market and support it along with all of Addamax' existing customers. Addamax, now not much more than a shell, will be left with waging the suit and completing the government's Orange Book evaluation of the CMW. Sandone denied any suggestions that the move was in any way a legal ploy. Argus will be taking on other people's technology as well and is currently in negotiations with several firms, he said.

**WABI: "JUST A COMFORTER,"
SAYS MICROSOFT**

Microsoft responded to Wabi saying it is "proof that Windows NT is becoming a real threat to the Unix market. Wabi is just a temporary distraction to comfort worried Unix users. It will be an expensive detour for users - it is much simpler to either buy Windows now or wait for Windows NT which promises links into Unix." Furthermore, if Sun has infringed its property rights, as yet unproven, Microsoft says it'll start legal proceedings. The company, which has no plan to put the Windows API into the public domain, characterises the PWI initiative as "far-cical." "Why should users want Windows to be put into the hands of novices? The companies involved have no technical experience of Windows and couldn't guarantee its future."

SUNSOFT DEBUTS LATEST INTERACTIVE UNIX - PLANS PENTIUM RECOMPILES

As expected (UX No 434), SunSoft Inc last week rolled out version 4.0 of Interactive Unix, its Unix System V/386 3.2 implementation which is pitched squarely at the Santa Cruz Operation Inc market for Intel Corp systems with up to 20 users. SunSoft claims many SCO Unix and Open Desktop applications now feature amongst the 5,000-odd software packages it says are up on the operating system. Enhancements include distribution on a 150Mb tape, support for file names of up to 512 characters, symbolic file linking, up to 256Mb system memory, MCA Token Ring, boot loadable device drivers and remote console login. Users will be able to run Windows applications with the bundling of SunSelect's Windows-on-Unix Wabi software during the second half of the year. The Interactive software development system includes a new version of Liant Software Corp's C compiler, which is said to run 80% faster than the previous version, plus a Motif version of the CodeWatch debugger. In addition there are new releases of TCP/IP, NFS, X-Windows and the VP/ix MS-DOS 5.0 emulator for Unix. From now until December SunSoft will bundle a copy of Fifth Generation Systems' FastBack Plus back up program with Interactive 4.0 free of charge. Interactive 4.0 is priced at \$545 - upgrades from 3.x cost \$215. Upgrades from Interactive Unix to SunSoft's Unix SVR4-based Solaris x86 system are \$200. SunSoft says its Interactive product won't be extended to include Unix SVR4 compatibility - that's the preserve of its Solaris x86 product - but maintains there is "no end of life plan for Interactive Unix." New Interactive releases will follow in the second quarter of every year, though there will likely be an interim release later this year, recompiled for Intel's Pentium chip. SunSoft is awaiting more robust SunPro and MetaWare (back-end) Pentium compilers before doing the job - it has a schedule but won't say what it is - Solaris x86 may also get an interim release compiled for Pentium too, the company says. SunSoft says it hasn't worked out whether Solaris for the IBM Corp/Motorola Inc PowerPC RISC will be compatible with the PowerOpen environment that IBM is developing for the CPU, but says it'll observe all binary standards. SunSoft company claims it did 35% more business on Interactive Unix in 1992 than in the previous year, when the Interactive Systems Corp unit was still owned by Eastman Kodak. It claims some 150,000 Interactive Unix licences and says it added around 75,000 last year - many, but "not a great percentage" were upgrades. Its big growth markets are South America and Asia. New distributors include Arrow Electronics Inc, Commercial Systems Group and GBC Technologies.

MICROSOFT COBOL BUSINESS GOES TO MICRO FOCUS

Microsoft Corp last week announced that it will stop selling its Cobol Professional Development System product on June 30 and instead reinforce the strategic alliance it has had for five years with Micro Focus Plc. This has been based on an OEM pact for the Cobol compiler and debugging technology in the Development System, but Microsoft is withdrawing that the better to address "the needs of corporate Cobol customers with a broader range of Micro Focus products that both companies will promote." The new relationship will focus on marketing as well as technology and Microsoft will work with Micro Focus to move its existing Cobol customers to Micro Focus products, and the two will try to establish a range of Micro Focus Cobol products as the best Cobol workstation implementations for Windows and for NT.

SEQUENT WINSERVERS - £24,000 TO £200,000

Sequent Computer Systems Inc duly unveiled its new WinServer multiprocessors running Microsoft Corp Windows NT last week (UX No 434). The home-grown WinServer 5000 comes with up to 16 Intel Corp 50MHz 80486 parts - scalable to 30 CPUs - 2Gb memory, 384 disks and 32 SCSI channels. It costs £197,620. There are three Tricord Systems Inc-developed boxes. The WinServer 1000 uses two 66MHz 80486 chips, comes with 512Mb memory, nine disks and two SCSI channels. It is priced at £24,000. The WinServer 1500 uses two 80486s, has 512Mb RAM, up to 21 disks and 4 SCSI channels - it costs £31,500. The WinServer 3000, with up to six 66MHz 80486 CPUs has 1Gb RAM, up to 192 disks, 16 SCSI channels and optional fault tolerant data protection and redundant power supplies. List price is £62,300. All will ship with Windows NT Advanced Server. Sequent is now a Microsoft Solutions Channel Partner and says it'll licence other Microsoft connectivity and system management tools for the WinServers.

LOCUS SEES A STRING OF WABI SHORTCOMINGS

Not everyone is infected with WABImania including Gerry Popek, head of Locus Computing Corp, who is of course a WABI competitor with Merge, his virtual personal computer mechanism for running Microsoft Corp operating systems on SCO Unix and now UnixWare. He says he looked at WABI and its approach a year ago and was unimpressed. He has a list of its shortcomings. First, it will only run 16-bit Windows 3.1 applications. Most of the world is running MS-DOS and there seems to be no provision for 32-bit NT applications or OS/2 software for that matter. Second, it can't support applications such as Video for Windows that build their own extensions to the Windows application binary interface. Third, it can't support software, common in the Intel Corp space, that also includes hardware like bar coding or touch screens. Fourth, it can't run the Windows Install or the Microsoft applets unless you already have Windows (which already comes bundled on most machines). So why do you need WABI?, he asks. Fifth, it ignores reality by failing to explain how it's going to track Windows which he thinks Microsoft will doubtless make a moving target by adding value like bundling in Access, its new database. Popek says that it's not clear that WABI solves the critical question of running Microsoft applications well enough. He claims it's only "half a solution" because most companies run one or two programs that aren't on WABI's can-run list. He admits WABI is alluring to the vendor but then damningly turns and claims it's a solution to the vendors' problem not the customers'. He worries that as a result the net effect of propagating WABI will be damaging to the whole Unix business.

OMRON UNVEILS 88110 LUNA 2001 - WILL BECOME A DATA GENERAL AVIIION

First fruits of February's OEM agreement under which Data General Corp is to get 88000-based desktops from Omron Corp is the Luna 2001 which is built around Motorola Inc's latest 88110 RISC CPU and runs the DG/UX operating system. Omron and Omron Data General Corp (the Japanese Data General subsidiary which Omron acquired in 1991) are to manufacture and sell the Luna 2001 in Japan. Data General will market it elsewhere as part of its AViiON series, but won't announce the box until later this summer when it plans to unveil other long-awaited 88110-based additions to its workstation and server line. DG supplies AViiON servers and MV minis to Omron, and says it'll be responsible for developing high-end 88110 workstations that the two firms will market. Luna 2001 runs a 40MHz 88110, is rated at 37.8 SPECint92 and 50.5 SPECfp92, comes with from 16Mb to 128Mb RAM, 425Mb or 1Gb disk, 19" colour screen and costs \$18,000. Omron sold 6,000 Lunas in 1992 and expects to sell 3,000 Luna 2001s over the next twelve months. DG is taking Luna boxes to reduce its costs - Omron is still seeking other OEMs. Omron: +81 3 3436 7139.

TWO FASTER EISA BUS SPECIFICATIONS ARE AGREED

Leading lights in the EISA bus world have come together to agree an extension to the specification called EISA with Enhanced Master Burst Addendum, which defines enhancements compatible with existing EISA products that enable the input-output performance needed for emerging high-end server applications. The extensions support transfer modes of up to 66M-bytes per second or 133M-bytes per second for bus master expansion boards. The first mode doubles the 32-bit burst transfer rate from the present 33Mbps, the second widens the data path to 64 bits. EISA-EMB uses the same connector to maintain full compatibility with existing EISA products and existing AT and EISA boards will operate in the new systems. The addendum describing the enhancements is available from BCPR Services Inc in Spring, Texas at \$200, but buyers must already have version 3.12 of the EISA Specification. Manufacturers involved include Adaptec Inc, AST Research Inc, Compaq Computer Corp, Corollary Inc, Hewlett-Packard Co, Intel Corp, NEC Technologies and Ing C Olivetti & Co SpA.

MICROSOFT AND INSIGNIA SEAL AGREEMENT

As expected (UX No 433), Microsoft Corp didn't wait for Sun-Select to actually announce its Windows-on-Unix WABI system before taking retaliatory action - see front page. It has now formally signed an agreement that allows the High Wycombe, Buckinghamshire and Mountain View, California-based firm Insignia Solutions Ltd to modify Windows source code at the application programming interface (API) to improve the performance of its SoftPC Windows under Unix package. Along with source, Insignia gets associated intellectual property including the Windows user interface, Windows APIs, and the Windows trademark and logo. The agreement will also allow Insignia to improve the Windows on Apple Computer Inc Macintosh version of its emulation software. Microsoft says it is developing tools which will enable C and C++ developers building Windows-based applications to target the Macintosh. The tools will give developers access to System 7 APIs, and will include a layer that implements Windows APIs on the System 7 operating system. Access to Microsoft's technology should make SoftPC run MS-DOS and Windows programs at near native performance by the end of the year. Insignia has already taken a 10% stake in Bridgefield, Connecticut-based Bristol Technology Inc, capping a deal for the two firms to develop and combine products that will allow Windows applications to run on desktop Unix systems. The project is focused on the speed at which programs run. Bristol's source-level Windows-under-Unix API, Wind/U, will be made to run Windows applications. Insignia's SoftPC runs 16-bit binary MS-DOS and Windows programs under Unix. No more is known at present because plans are still changing, but Bill Gates' threats to make life miserable for WABI by bringing out competing products of his own are believed to involve Bristol and a Microsoft licence to Wind/U. Insignia's SoftPC - which is being used to run 16-bit MS-DOS and Windows applications under Windows NT - will be the other binary rock that Microsoft throws at WABI. With Windows source code, Insignia would not face the problems that Sun faces keeping up with Windows development. Microsoft has also licensed Windows source code to companies such as Citrix Systems, which will deliver a multiuser version of Windows NT.

USL SETS ENTERPRISE SOLUTIONS SHOW

Now here's something we need - another Unix show. What with Windows World upon us, Unix System Labs, possibly a victim of show envy, is branching off into show business. It's planning to sponsor the three-day Unix Perspectives: The Conference for Enterprise Solutions the first week of November. In the pipeline for a while, it now hopes to embrace COSE's anticipated developers' conference. In a letter sent out the last few weeks over the signature of USL president Roel Pieper, who also sits on the Uniforum board, USL is promising "no other industry event will attract such a prominent collection of information system executives, developers, end users, industry analysts and key members of trade media." The show has an extensive national advertising campaign and 500,000-piece direct-mail shot. Possible venues include Dallas. The big Comdex show in Las Vegas is two weeks later.

INTEL "TO LEASE IBM SPACE TO MAKE MORE PENTIUMS, 80486s"

Intel Corp shares were bouncing last week on excitement generated by a suggestion from Alex Brown & Sons analyst Erik Jansen that he believed Intel was negotiating to use an IBM Corp chip plant in order to boost production of 80486 and Pentium computers. Neither side was prepared to comment on the suggestion, but given IBM's surplus manufacturing capacity, such a deal would be good sense. The analyst reckons that such additional manufacturing capacity could boost Intel profits by some \$0.50 to \$1.00 per share, as early as the last quarter of 1993. Separately, *US PC Week* highlights Intel's unhappiness with the cavalier way in which IBM has been offering to all and sundry the iAPX-86 chip variants it has designed under its second source agreement with IBM, and suggests that the agreement is being renegotiated, and that IBM may get the right to make enhanced versions of the Pentium only if it agrees to strict limits on how many it can make for itself or sale.

MICROSOFT ENGINEERS BURNING MIDNIGHT OIL TO GET NT INTO SHAPE

Microsoft Corp is reportedly going to by-pass the formality of a press conference to announce Windows NT in two weeks. Bill Gates will supposedly do the honours himself at his Windows World keynote. Atlanta, Georgia, the expo site, will apparently be all dolled up for the festivities with billboards, local advertising, the works. Meanwhile, the boys and girls at Microsoft are working 70 and 80 hour weeks trying to get NT out as soon as possible. At 8:30pm the parking lots outside the NT buildings on the Microsoft campus are observed to be 80% to 90% full. Travel plans have been curtailed so people can focus on the imminent launch later this month and people who have visited Redmond over the last 11 years say they've never seen the intensity level so high. Faced with lingering criticisms that NT is still fat and slow, they're doing lots of performance tuning and debugging - which of course leads to the burning issue of when NT will actually be released. Microsoft senior vice president Paul Maritz told Compaq Computer Corp he was expecting NT to ship by the end of June. Sequent Computer Systems Inc was told pretty much the same thing (UX No 434). However as of May 3 the code hadn't yet been frozen. Once it is frozen, OEMs estimate it will take another six to eight weeks for independent software vendors to get their applications into distribution channels. NT manufacture should ramp up relatively quickly using CDs.

AUSPEX DEBUTS NS 6000 NFS SERVER

Auspex Systems Inc, Santa Clara, California, has introduced a new model in its network file system server line, the NS 6000, claiming it supports database or backup applications running alongside NFS input/output operations without one activity impacting the performance of another. The NS 6000 can support up to 200 workstation users and replaces the existing NS 5500. It runs version 1.5 of the company's NetServer System software, which includes on-line backup, partition support and performance management. The NS systems, which separate network input/output processing from Unix processing, use an Mbus-to-VMEbus interface controller chip to provide direct memory access to the host 40MHz Sparc CPU. Auspex says the NS 6000 functional multiprocessing architecture eliminates i/o bottlenecks by separating network, file and disk management functions usually performed by the host CPU. The controller chip, co-designed with Fujitsu Ltd, can access the host CPU at 40Mbps compared to the 5-10Mbps for a Sun Sparcserver 690MP, Auspex claims. The system supports Delta Microsystems' FreezeFrame backup software, which can load up to 120Gb data using standard Unix utilities. Version 1.5 of the Auspex software supports the export of tertiary file systems and connection, via the host processor, to mass storage subsystems. The NS 6000 supports up to eight Ethernet port and delivers a claimed 1,703 SPECnfs operations per second whilst maintaining a performance rate of 20 SPECint92 for applications. Running Solaris, the NS 6000 comes with up to 640Mb RAM, 120Gb disk, one or two file processors and three storage processors and five SCSI-2 drives. Auspex says it'll upgrade the box to higher performance Sparc Mbus modules over time. Prices start at \$140,000 and a base configuration is bundled with \$25,000 of software. Existing NS 3000 and NS 5500 systems can be upgraded to a 40MHz Sparc and MVIC processor for \$20,000.

INTERGRAPH UNVEILS CLIPPER, INTEL NT BOXES

As expected (UX No 415), Intergraph Corp has introduced a new C400 RISC-based desktop and two multiprocessing Intel Corp-based servers geared for Microsoft Corp Windows NT. The model 2350 desktop delivers a claimed 28.9 SPECfp92 and 199.9 SPECint92. It comes with a 19-inch colour monitor, 32Mb RAM, 426Mb disk, up to 8Gb of storage and an eight-bit graphics subsystem. It is priced at \$13,000. The Interserv MP42 and MP44 are essentially re-badged AST Research Inc machines and come with two to four 80486 CPUs, 64Mb RAM, 540Mb disk, support for up to 32Gb storage, 600Mb CD-ROM, six EISA slots and support for RAID levels 0, 1 and 5. They cost from \$69,000 to \$84,000 and run Santa Cruz Operation Inc Unix - Windows NT follows later this year. In addition, Intergraph will be porting its MicroStation CAD package to IBM's RS/6000 line.

TALIGENT PLANS OBJECTS TO SUIT ALL TASTES

By William Fellows

Taligent Inc, the Apple Computer Inc-IBM Corp venture devoted to building an object-oriented operating system environment plans to deliver a complete 32-bit object-oriented operating system around the middle of 1995 and will be looking well beyond its masters' horizons for custom. There will be a development environment and beta versions of the complete environment tailored for vertical markets running up to its release (UX No 426). The firm is also aiming to make available chunks of its technology for inclusion in other companies' operating systems as the various components of its object environment are completed.

It escaped general attention at the time, but Joseph Guglielmi, Taligent's chairman and chief executive says that one of his first moves on joining the company was to create three quite separate divisions. The first of these concentrates on Taligent's native implementation, now firmly based on a version of the Carnegie Mellon University Mach kernel, which IBM has slimmed down and turned into a true micro-kernel implementation. The second group handles development tools, while the third 'complementary products' division is looking to promote parts of the Taligent technology for adoption on existing hardware. It's too early to say which bits these will be, says Guglielmi, but the most obvious choices, he suggests, are the big functional blocks such as graphics subsystems or the development environment. Both Apple and IBM will take Taligent work for incorporation in future versions of their existing offerings. The potential pitfall of this approach is that the Taligent add-ons could make the conventional offerings so attractive as to damage the acceptance of the native product itself. Guglielmi acknowledges this but says that if his company had ignored the market it would have given competitors free rein. This way, he says, when native Taligent, finally arrives in mid-1995 it will find an industry well stocked with Taligent-compliant tools and objects - and developers, claims Guglielmi, just love what they have seen so far.

The Taligent system will use de facto protocols and support the Open Software Foundation Distributed Computing Environment, Sun Microsystems Inc's remote procedure call and Network File System, Apple Events, AppleShare and the Object Management Group's Common Object Request Broker Architecture (Corba) mechanism for distributed computing. Taligent says its stuff does not conflict with Sun's Distributed Objects Everywhere (DOE) scheme, which is more focused on distributed networks, and the layered products will not require commitment to any specific microkernel - they will run on top of existing operating systems. IBM will be putting Taligent stuff up on OS/2 2.x and AIX microkernel-based systems from next spring - see below. Taligent kernels - as opposed to layered products - will act as the hardware-specific interface in place of current operating systems, and application programming interfaces such as the Apple Mac user interface and IBM's Workplace Shell will become modules that run on top of these kernels.

Done deal

That Hewlett-Packard Co is thought to be lining up for a piece of Taligent (UX No 425), should come as no real surprise. Taligent was conceived as a standalone developer of technology; HP has worked closely with IBM and Sun on objects and the deal for IBM to port its Distributed System Object Model - DSOM - to the HP's PA RISC architecture is thought to have been the impetus for the COSE initiative (UX No 425). Indeed HP and IBM are now thought to be working on much closer relationship (UX No 430). "HP and IBM is a done deal," according to one insider.

Meanwhile, IBM's Personal Systems Products division - which will have decamped to Austin, Texas, from its Somers, New York headquarters by the end of next quarter - is also working to port its DSOM object enabling technology - which is front-ended by HP's Windows-based New Wave object interface - to Microsoft Corp Windows (by the third quarter), Macintosh, Novell Inc and Sun environments in that order. DSOM is a general purpose mechanism for communicating between objects based upon the OS/2 workplace shell, and is also up on AIX. The idea is to allow packaged objects to be accessed from anywhere on the network and from any programming language. It includes a distributed object application development environment, object services, inheritances, persistence, authorisation, verification and is also to include a Corba-compliant object dispatcher (UX No 434). IBM needs a set of binary compatible objects like these precisely because OS/2 and AIX do not share common binaries.

IBM is developing a hardware-independent microkernel system based upon the Carnegie Mellon University Mach3 system that'll take advantage of its own and Taligent object technologies. The idea is for operating system personalities such as OS/2, AIX and DOS/Windows to run on top of a microkernel that will be available across a range of IBM machines, allowing the same applications to run under a variety of personalities. Mach 3 will handle all basic hardware functions. More complex services - from device driver interfaces up will be handled by the operating system personality on top. Mach runs to some 40,000 lines of code but can operate out of 512Kb RAM. Beta releases of AIX and OS/2 Mach microkernels are due in a few months and in the second half of the year respectively. IBM is reportedly trying to sell the Mach concept to the likes of Apple and Novell Inc. The PowerOpen environment it is developing out of AIX for PowerPC RISC will be compatible with the OSF/1 operating system, but will not be microkernel-based. IBM's RS/6000 group, meanwhile, is pursuing a separate, non-microkernel version of AIX.

Standards from groups such as OMG will ensure that various object technologies, including whatever DSOM evolves into, Taligent, Sun's DOE and HP's DOMF, share much common ground. Existing products, such as the Object Design Inc ObjectStore object database are already becoming widely adopted. Vendors simply haven't had the time to go off and develop very proprietary offerings, yet. Whilst there was much talk of objects at the COSE initiative roll-out, firms associated with the effort do not yet seem to have decided if or how this playing field can be levelled, or whether basic object functionality is to be used to gain competitive advantage. The question is how Sun, Taligent, IBM, HP and others would be able to accommodate each others' technology under such an umbrella.

MICROMUSE TO MARKET ECOSPHERE IN UK

London-based Micromuse Ltd, is to distribute Cupertino, California-based EcoSystems Software Inc's EcoSphere system management products in the UK. EcoTools/Oracle for managing distributed Oracle-based client/server systems runs on HP, Sun and Sequent hardware and supports Oracle 6.0, Open Windows and TCP/IP. Micromuse claims similar system management products like Hewlett-Packard Co's OpenView and SunConnect's SunNet Manager tackle hardware and networking issues, whilst EcoSystems includes integrated applications management. EcoTools support for Oracle 7.0, Sybase, Informix, Novell NetWare and other Unix hardware platforms is planned. +44 71 352 7774.

ARCHIPEL MIX-AND-MATCH BOARDS, SYSTEMS

Paris-based Archipel SA is to market a number of development boards and systems based on the T9000. These include the Volvox-TW-9000 "ready to start" computer; the Volvox-devT9000 toolbox for embedded systems; and three boards - the Volvox-1/SF-900 SBus board, Volvox-1/CTR-900 and Volvox-1/V-900 Master/Slave VME T9000. The TW-9000 parallel MIMD system according to Archipel, goes from one user-friendly pizza box, filled with four High Performance Transputer Modules, up to arrangements of four boxes linked together. The software will include the Inmos T9000 C and Occam-based Toolset, and Chorus Systemes SA's Chorus/MiX real time Unix operating system. The system can be used to develop parallel embedded applications or as a booster for workstations. Sample price for a 16Mb box is \$45,000. The Volvox-devT9000 is a software development and support system for integrating standard High Performance Transputer Modules, HTRAMs, and peripheral controllers. It enables users to prototype specific hardware interfaces and also network systems. It is based on an open VME chassis with Inmos motherboards and HTRAMs and will offer switching boards using one or more C104 Inmos chip, with wire connections between boards conforming to the Inmos standard. It costs \$25,000. The 1/SF-900 board for Sun Microsystems Inc Sparcstations includes shared memory between the T9000 and SBus. It can be used as a single processor development system, a gateway to a network of T9000s, a Transputer network controller or a combination of all three. It is around \$3,500. The 1/CTR-900 board provides the basis for a development system that includes SCSI II and Ethernet. It is \$7,200. Finally the Master/Slave VME T9000 board, built on top of Chorus is for use as a VME controller. It is \$7,300 to \$8,600.

ALPHA PC EXPECTED ON 25th

Digital Equipment Corp is expected to unveil its 150MHz Alpha AXP-based personal computer for Windows NT at the Windows World expo alongside Comdex Spring in Atlanta, Georgia on on May 25th (UX No 430). Priced at \$7,000, the minitower will come with 32Mb RAM, 426Mb disk, 512Kb cache, a 600Mb CD-ROM and SCSI controller. Other features include Ethernet adapter, six EISA slots, five drive bays and SuperVGA monitor. DEC claims 250 Alpha PCs are already with independent software vendors and hopes to get more than 1,000 of the machines to developers by June 30. It also plans to roll-out a sub-\$5,000 range of Alpha PCs later this year. These low-cost systems will support Intel Corp's Pentium Peripheral Connect Interface bus specification, which will allow NT applications running on its Alpha or Pentium systems to interoperate.

ECHO LOGIC UNVEILS MAC-TO-POWERPC TOOLS

Echo Logic Inc, Holmdel, New Jersey, will duly unveil its FlashPort for Macintosh toolset today, a binary software translation environment for converting Motorola Inc 680x0-based Apple Computer Inc Macintosh programs to run on PowerPC systems under MacOS or the IBM Corp AIX Unix-based PowerOpen. Echo claims a complete commercial application written in a high-level language can be translated in less than two weeks and that in most cases the code size and performance of an application translated with FlashPort will compare favourably with applications compiled directly on PowerPC. Currently Echo engineers do PowerPC translations for customers, but from July the company will offer FlashPort to ISVs and developers. Apple is using AT&T-backed Echo's technology internally to move some Mac componentry to PowerPC (UX No 427), but it won't offer FlashPort directly. Although Apple is using emulation techniques to get other parts of its Mac system over to PowerPC (UX No 434), its ultimate goal must be to have everything running native on the IBM/Motorola CPU to extract maximum performance benefits, the whole point of moving to the architecture in the first place. Emulation techniques look like transition strategies. Taken in conjunction with the deal with Novell Inc to put Macintosh up on Intel Corp platforms (UX No 433) and its plans for Mac on RISC architectures - see front page - Apple has clearly recognised that it needs hearts and minds in the ISV community, says Echo president Brad Burnham. On last week's events - Wabi and the Microsoft/Insignia roll-out (UX No 434 and see pages one and three) - Burnham says he's glad that vendors finally seem to be acknowledging the importance of the application community with real initiatives. He foresees a small number of popular application programming interfaces becoming available on a large number of platforms so that developers can target a variety of vendors with one version of an application. Translation technologies are important, however, because other solutions still lack a common development environment and should be able to get to multiple platforms from a single code base. Echo currently has no iAPX-86 front-end for FlashPort, but is thought to be heading down that road.

HITACHI AND HP TO EXTEND DCE

Open Software Foundation founder members Hitachi Ltd and Hewlett-Packard Co are to enhance the organisation's one-year-old Distributed Computing Environment (DCE). Both have already shipped versions of the software. Hitachi is to contribute its Heterogeneous Data Base Access Function, which provides interoperability between various DCE and Unix-based databases and Distributed System Automatic Operation Function, which notifies the system manager of, and provides a response for, system failure. HP is contributing multi-threaded safe libraries and Distributed Message System Function, a message management system for distributed environments. The results will appear on both vendors' Unix platforms in 1994 - Hitachi is a licensee of HP's PA RISC architecture.

"COSE WANTS US AND OUR OBJECT INTEGRATION SOFTWARE" - DEC

Digital Equipment Corp now believes COSE really wants it to join, something it wasn't quite sure about a few weeks ago. One of the reasons it thinks COSE is interested in its participation is some key technology that DEC has that in its infinite wisdom it has failed to trumpet. DEC calls the stuff ACAS, the Application Control Architecture Service. It's an object-oriented, Object Management Group Common Object Request Broker Architecture-compliant application integration scheme DEC already has running on Hewlett-Packard Co, and IBM Corp machines along with its own Alpha RISC. It estimates ACAS could accelerate the schedule COSE's been kicking around by a year. DEC won't get cozy with COSE until it sorts out the all-important "process" of how things work and get selected, something COSE is believed to be finalising. DEC says COSE is apparently not going to require participating companies to adopt its whole technology package, running the risk of watering down its whole purpose.

STANDISH REPORT SLATES TPC-A FIGURES

In a new report, The Standish Group claims Oracle and other suppliers have conspired to run the TPC-A Benchmark with results "which are, in our opinion, seriously misleading." The report deals with recently audited TPC-A and TPC-B benchmark results offered by IBM, HP, DEC and others using Oracle7 with the "discrete transaction" option. It says Oracle7 implements a poorly documented, special transaction model option known as the discrete transaction. Discrete transactions bypass many of the integrity features and general functionality of Oracle7 and significantly cuts the processing "path length" of the transaction. The integrity features remaining in the discrete transaction are those just sufficient to execute the TPC-A benchmark test - "a notoriously undemanding test," according to the group. It says this limited functionality option could be used "by very few, if any, users developing production applications. This being the case, The Standish Group believes that "the discrete transaction option was implemented in Oracle7 solely for the purpose of running the TPC-A benchmark as efficiently as possible." + 1 508 760 1800

RABBIT HAS UNIX ADD-ON FOR NOVELL'S NETWARE FOR SAA

Designed for Unix users of Novell Inc's NetWare for SAA, Open Advantage Unix version 5.3 from Rabbit Software Inc, Malvern, Pennsylvania complements the existing range of stand-alone Unix gateways that support 3270, RJE and APPC connections. The product can use SPX/IPX connections as well as Unix TCP/IP communications and can provide access to multiple hosts through multiple NetWare for SAA servers. Open Advantage Unix for SAA is available from Burgess Hill, Sussex-based Accent Computers Ltd in the UK at £500 for a single user version, or up to £2,950 for support for up to 254 SNA sessions.

IBM ADDS DB2 FOR OS/2, C SET ++

IBM Corp last week said that the version of DB2 for OS/2 is generally available after a successful beta test and that it has a set of software development tools for the object-oriented C++ language. The 32-bit OS/2 2.0-based relational DB2 database is designed for client-server applications, and comes in stand-alone, client and server versions. IBM Programming systems says that C Set ++ for OS/2 is a suite of integrated software development tools for C++, which will be available on May 31 at an introductory price of \$175. The company also launched SystemView Information Warehouse DataHub, a series of software products for simplifying database management tasks by assisting in the integration of database management tools and managing remote databases tasks. It will be available in June.

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IBM Corp and Microsoft Corp are apparently working together on a project to put Windows NT up on the PowerPC RISC.

Menlo Park, California start-up, **Wide Area Information Servers Inc**, has productised some network publishing software for Unix servers that has been testing up on Internet for the last two years: **WAIS Server and Workstation for Unix** cost from \$10,000 to \$50,000. +1 415 617 0444.

Once again hardware and software developers will be testing the portability and interoperability of their technologies at the eighth Connectathon event which **SunSoft Inc** is staging at between July 22-30 at the San Jose Convention centre in California. TI-RPC and Tooltalk NFS Version 3 testing is on the agenda. 72571.1341@CompuServe.COM or +1 415 380 0400.

Next Computer Inc has hired former **Dun & Bradstreet** vice president, Warren Weiss, as vice president of North American sales and marketing. Next is currently seeking a chief financial officer.

San Jose, California-based **Alliance Semiconductor Corp** has bought the Sparc Mbus/Sbus chipset designer **Nimbus Technology Inc** on undisclosed terms: the Santa Clara, California start-up created a stir last year with its chipset designed for use with the superscalar Sparcs from **Texas Instruments Inc** and **Cypress Semiconductor Corp** (UX No 383) - Nimbus received \$1.5m funding from Cypress subsidiary **Ross Technology Inc**.

Motorola Inc says it is now shipping the 40MHz version of the 68040 in volume, claiming that at 41.8 VAX MIPS, Motorola, it runs faster than the 50MHz version of the full 80486 from **Intel Corp**. The 40MHz 68040 is \$393 for 1,000 or more.

Louis Gerstner finally made his own first major move since being appointed chairman and chief executive of **IBM Corp**, going outside the company again for a key executive and tapping Jerome York from **Chrysler Corp** to be his new chief financial officer.

IBM claims that revenues in its **Advanced Workstations and AIX Systems** unit grew in the first quarter by more than 50% over a year ago: director Tom Jarosh said demand for the system is "growing rapidly, with customer shipments in the US up 90%" over a year ago; the unit covers workstations and servers, **AIX/6000** operating system and related software.

Uniform and the small Unix Reseller Show, held last week in Dallas to credible reviews, have been talking lately about making Unix Reseller part of Uniform, an altogether sensible idea.

After the ACE debacle and its own close run-in with disaster, **Compaq Computer Corp** beat a hasty retreat from "desktop Unix." Times change and now it's told **Univel Inc** it will pick up **UnixWare** but not before **UnixWare** proves it can garner some volume outside of Compaq. Compaq has set **UnixWare** some milestones to meet over the coming months.

DEC would like to change the name of its OSF/1 operating system to lower the profile on its non-conformity. What to call it instead is the problem. One thought was **Ultrix Release 5**. DEC has also taken a booth at this week's **SunWorld** expo in San Francisco to make an aggressive bid to entice **SunOS** applications and user to Alpha.

The upcoming **Unix Expo** in September has scheduled a session called "The Killer Application for Unix: The InterNet." Interesting notion that.

El Segundo, California-based systems integrator, **Computer Sciences Corp**, and **Sun Microsystems Inc** are teaming to offer client/server solutions to aeroplane builders - the two expect to win \$80m of business over the next 18 months: **CSC** won the \$3bn, 10-year outsourcing contract with **General Dynamics** in 1991.

DEC has previewed the **Rdb 6.0** version of its relational database, saying that at \$6,643 per tpsA on an Alpha AXP DEC 7000 Model 610, it is the first production database to go below \$7,000 per tpsA; it ships December. An interim **Rdb 5.1** release adds **Open Data Base Connectivity** and costs \$1,130 to \$349,800 from August. DEC also has **EDA/SQL** enhancements for the **Accessworks** client-server integrated data access server family, and new versions of the **RdbAccess** product family.

Microsoft Corp chairman **Bill Gates** said he expects to ship the follow-on to **Windows 3.1**, codenamed **Chicago**, in 1994 but declined to say at what point in the year the upgraded system will be launched: "We should debunk any notion that Chicago is around the corner," Gates told an audience of developers sponsored by Microsoft - "All we can say is we expect it will be in 1994 and we'll keep people in touch on that."

Oracle Corp and **US West**, the Regional Bell Operating Company, are expected to announce a strategic alliance this week to build the software infrastructure to support the so-called "Information Highway," the new forms of information and entertainment that will become available through TV, screen phones and portable computing devices. It'll be Oracle's first foray into low-cost public consumer applications.

And **Oracle** is already talking about **Oracle 8**, which it expects to add object-oriented extensions to **SQL** and due to be announced in December of next year. An interim release, **7.1**, is due to bow in October.

ComputerWorld quotes **Intel Corp** architectural manager **Daniel Hoskins**, speaking at a **Unisys Cube** and **Use** user group conference, as saying the 66MHz **Pentium** as been tested internally to run over 112 MIPS. He also said the **P6** is less than 18 months from delivery and that **Intel** is trying to get a 2,000 MIPS chip to market by the year 2000.

Unix System Labs is set to kick off a **Solution Providers Program** May 17 in which it will partner with systems integrators such as **EDS** and make sales calls with them. The integrators will be trained and certified by **USL's Unix University** and get good deals on **USL's** master binaries.

Sun chief **Scott McNealy** says "COSE is a verb not a noun."

Micro Focus plc this week is supposed to announce a new client/server **OLTP Transaction System** that will let customers emulate **CICS** and help them migrate from the mainframe to a client/server environment. **Sun** under **Solaris 2.x** is among the target platforms, which include **OS/2** and **AIX**, and **Sun** is expected to announce that it will price list the stuff. Availability is sometime this summer.

HP has beaten incumbent mainframe suppliers, **IBM** and **Unisys** to a contract with **Televerket** of Stockholm worth an initial \$4.6m, which could grow to \$100m by 1996. The initial pact includes client-server software running on **HP 9000 Series 800 Unix** machines. **Televerket** wanted support for 1Tb databases and 10,000 concurrent users with subsecond responses.

Toshiba Corp is to manufacture **Quantum Effect Design Inc's** **Orion** version of the **Mips Technologies Inc R4000 RISC** which will be targeted at high-end personal computers running **Microsoft Corp Windows NT**. Meanwhile, **NEC Corp** is readying the low-power **VRX R4000** for introduction later this month: priced at around \$90 in volume quantities, it is aimed at portable PCs running **NT**.

As expected (UX No 433), **NCR Corp** will next week release version 2.0 of its **Top End** on-line transaction processing monitor. Enhancements include **IBM LU 6.2** connectivity, which allows **Top End** applications to interoperate with **CICS** or **IMS-based MVS** applications, support for **Microsoft Corp Windows Dynamic Link Library** and **OS/2**, remote login clients, improved routing/load balancing and throughput optimisation which automatically adds or subtracts copies of an application to meet demand.

They're playing musical chairs over at **Sun Microsystems Inc**. **SunSoft** vice president of sales and marketing **Bill Larson** has moved to become vice president of **SunSolutions**, the **Sun Tech** unit responsible for groupware like **Show Me**. His successor is unclear. Apparently it is going outside. The same applies for the post of **Sun Microsystems Computer Corp's** vice president of marketing. The current occupant, **Larry Hambly**, is moving over to run the service business, which will be spun out as a planet responsible for hardware support and integration. Logistics will go over to the operations division. **Sun's** vice president, product marketing, systems products **Anil Gadre** is also on the move, going to vice president, marketing for **NAAFO**, **Sun's** North America/Australia Field Operation.

Sun executives say the issue of **Sun** chief executive officer **Scott McNealy** giving up his other post as president of **Sun Microsystems Computer Corp**, **Sun's** systems planet (UX No 433), has been raised many times and never acted on. We have it from on high, however, that this time it will.

All **Sun** units have reportedly been told to trim expenses 9% to 11% with the sales force getting hit the hardest. It is believed 600 **Sun** folks will be redeployed to **SunSoft** and **Sun Tech** and maybe a thousand cut. The company is closing down anything left of manufacturing in the US and moving it offshore.

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SANTA CRUZ FACES THE COMPETITION WITH OPEN DESKTOP LITE

Now faced with competition from a gamut of Unix-on-Intel contenders, Santa Cruz Operation Inc, which is also in the process of taking itself public, will this week reorganise its Unix system software lines into a more orderly collection of distinct desktop and server products. They are based on a new version 3.0 of its Open Desktop operating system bundle and SCO Unix system. The most interesting new addition is Open Desktop Lite, a cut-down version of release 3.0 that is pitched squarely at the standalone Intel workstation space also being coveted by SunSoft Inc, Univel Inc and NeXT Computer Inc. SCO Open Desktop 3.0 - formerly SCO Open Desktop Personal System - includes a new kernel iteration, the absurdly named SCO Unix System V/386 release 3.2 version 4.2 (single user), C2 security, X Windows X11R5, IXI X.desktop manager, 20 applications and utilities, TCP/IP, NetBIOS, NFS, Microsoft Corp LAN Manager Client and support for protected mode MS-DOS 5.0 and Windows 3.1 applications via Locus Computing Corp's Merge. It costs from £1,000 on CD-ROM to £1,300 on 3.5" disk, around the same as the existing version, and requires 12Mb RAM and 120Mb disk. SCO Open Desktop Lite is pitched as the minimum requirement for a desktop graphical workstation with 8Mb RAM and 100Mb disk. It comes with the same features as the Open Desktop 3.0, minus networking and Microsoft emulation. SCO won't price the thing until Tuesday, but its expected to come in at around or below the price of SunSoft's Solaris x86 desktop system which is £600 - \$800.

Three servers, two desktops

SCO's server products are now divided into three offerings. The multiuser SCO Open Server Enterprise System includes everything in Open Desktop 3.0, plus database tuning, Novell Inc IPX/SPX protocols, and Locus PC Interface server. It replace Open Desktop server system as SCO's high-end offering and costs from £1,850 for a 16 user licence on CD-ROM to £2,875 for a 512 user licence on 3.5" disks. SCO Open Server Network System comes with the same basic system and networking components, but loses the graphical interface and Microsoft emulation technologies. It is priced at £1,570 for a 16 user licence on CD-ROM to £2,280 for up to 512 users on 3.5" disks. The base SCO Unix V/386 Release 3.2 version 4.2 - without graphics, Microsoft compatibility and networking - is £500 for a two user licence to £1,550 for 16 users. All are available from June 1. A software development environment and multiprocessing are extra. Version 3.0 of SCO's MPX multiprocessing technology - it is not multithreaded - requires 16Mb RAM per CPU and includes a new Hardware Abstraction Layer which retains system characteristics of some 22 Intel iAPX-86 multiprocessor boxes. The HAL allows existing MPX users with any of these systems to upgrade to MPX 3.0 without porting. Other system configurations will be added to the HAL as they come along. MPX 3.0 is £1,250. The new operating systems haven't been recompiled for Intel's Pentium - SCO says it'd have to support two product lines otherwise - and sales on 80386 platforms still make up half its business. It is offering optimised Pentium compilers for those that want to do the job themselves, however SCO claims performance increases 170% on Pentium from an 80486 without a recompile - around 230% with recompilation. More details page five.

CYPRESS THROWS IN TOWEL ON ROSS, WILL SELL TO FUJITSU FOR \$23m

San Jose, California-based Cypress Semiconductor Corp claims performance leadership in the Sparc world with its superscalar HyperSparc, but has been less than successful in gaining design wins against the Texas Instruments Inc SuperSparc - and Cypress has now decided to give up on the unequal struggle. Last week it announced that it had signed a letter of intent to sell its Ross Technology Inc subsidiary, repository of all its Sparc work, to Fujitsu Ltd for \$23m. Fujitsu is also a licensee of the Sparc architecture, but does not currently fabricate a device in the HyperSparc class, though its ICL plc subsidiary has already announced plans to use HyperSparc in its latest series of DRS6000 servers (UX No 432). Cypress now plans to concentrate on static RAMs, programmable logic devices and its high-performance niche product lines. The 75 Ross employees in Austin, Texas will transfer to Fujitsu when the deal is completed - it should go through next month if Uncle Sam does not put up the kind of objections that thwarted Fujitsu's desire to buy Fairchild Semiconductor Corp a few years back. The parties also agreed continuation of a multi-million-dollar joint development programme between Cypress and Ross focused on the development of a complex logic-oriented product. Cypress and Fujitsu are committed to supporting current Sparc customers with both manufacturing and distribution. Fujitsu, which in 1990 abandoned plans for a top-end Sparc in favour of variants for embedded applications after deciding that the high-end market would be too small, says it will support future Sparc technology and work toward developing it as an industry-standard architecture. Cypress has no plans to develop future Sparc products but it will continue to handle distribution during the transition.

UNISYS IS PENTIUM-READY

The unavailability of Intel Corp's promised Pentium chip is forcing hardware vendors like Unisys Corp, much of whose product line is Intel, to scramble. This week Unisys will preview a far-flung range of "Pentium-ready" machines, currently running 80486s but designed to be seamlessly upgraded to 60MHz Pentiums in the third quarter. The boxes include Windows and NetWare PCs and two new U6000 Unix SVR4-based departmental uniprocessor servers, the 100 and the 300, 8-slot EISA systems with 192Mb memory capacity and a maximum 2.1Gb disk. The model 100, confusingly divided into the two-slot DT1 and three-slot DT2, will use an 80486DX2 and be upgradeable to a 300 in the fall. The 300 will be Pentium-only. The company says these boxes incorporate advanced video, SCSI and cache technologies. The DT should be formally announced next month. Unisys will also make note of the fact that its anticipated PCI-based multiprocessing Unix Server Design Center, due in the fourth quarter, will house Pentiums and later P6s and that the high-end U6000/75 and U6000/85 that it OEMs from Sequent Computer Systems Inc will be field upgradeable to Pentium in the fourth quarter. Its 113-TPS U6000/65 multiprocessor will be upgraded to an enhanced 100MHz 80486 chip in the fourth quarter that should triple its speed while memory is expanded from 256Mb to 512Mb. Pricing will not be available until a month or two before first customer ships. More details page five.

CHORUS PACT FOR POWERPC...

French microkernel operating system developer Chorus Systemes SA has come to an agreement with Motorola Inc's Semiconductor division to jointly develop and market a combination of Chorus Unix System V-compliant microkernel technology with the PowerPC chip Motorola is developing with IBM Corp. The two will offer products with the Chorus microkernel embedded on the PowerPC chip, in response, they claim, to demand from telecommunications manufacturers. Chorus will optimise the microkernel for the PowerPC. A development kit for applications developers will be available by year-end, and open microkernel on-chip products will be on the market by the first quarter of 1994. Chorus has a similar deal with Thomson CSF for the Inmos transputer, and plans to partner with other chip manufacturers.

...CORPORATE DEAL WITH ALCATEL

Meanwhile, Chorus has signed a \$21,000m deal with Alcatel Alsthom SA for use of the Chorus microkernel technology throughout Alcatel's operations. Alcatel - which has been working with Chorus since 1989 on its PBX telecommunications equipment (UX No 336) will now expand its use of the microkernel to such areas as process control systems within power stations and embedded transportation control systems - Alcatel products include the high-speed French TGV train system. Alcatel PBXs running Chorus began shipping earlier this year, with volumes expected soon. Other Chorus telecomms customers include GEC Plessey and France Telecom.

MICRO FOCUS PLUNGES INTO OPEN TRANSACTION SOFTWARE MARKET

The new Transaction System from Micro Focus Plc (UX No 435), runs under Unix, AIX OS/2 and Windows NT, which can act as servers for other copies of Transaction System and for CICS OS/2, CICS/6000 and Transaction System thin clients. It supports Function Shipping, enabling access to data from a remote server, Transaction Routing, enabling a transaction to be initiated on a client and redirected for execution on another system; Distributed Program Link provides for Remote Procedure Calls. First announced pact is with Sun Microsystems Inc for Sparcsystems under Solaris, the pitch being that IBM Corp CICS users can move applications from their mainframes and run them on Sun distributed client-server systems with little or no modification. The multi-user, multi-tasking transaction system supports client-server, co-operative and distributed applications on workstations and networks. It supports the CICS command-level program interface and interfaces to Micro Focus Dialog System and non-CICS applications. It also offers communications between transaction systems and with main frame and network-based CICS systems. The Transaction System for Sparc will be out in July from Micro Focus and Sun is now selling and supporting the entire Micro Focus Cobol environment for commercial software developers under Solaris 1.1 and Solaris 2; including Cobol Compiler, Toolbox, Dialog System and Operating System Extensions. They will integrate with the Transaction System and immediately replace all Sun Cobol products. Current support customers automatically get Micro Focus Cobol upgrades. Prices for Cobol products go from \$250 for the Operating System Extensions to \$1,250 for compiler, depending on configuration.

Departure

The system represents a major departure for the Newbury, Berkshire company that up to now has been famed for its Cobol products and development tools rather than for production system software - but the market for Unix transaction processing systems is still wide open because scarcely any have been sold as yet. Moreover the Micro Focus offering reaches beyond Unix to run under OS/2 and Windows NT - and MS-DOS and Windows systems can access it as clients. But Micro Focus is bearding its leonine partner IBM Corp in its lair, effectively going head to head with IBM's own CICS/6000 by creating an open system that can run CICS applications and offers links to mainframe CICS systems. The core engine of the product has been designed for scalability, flexibility, robustness, speed and CICS compatibility as well as integration with Micro Focus Dialog System and non-CICS applications, the company says, adding that it provides a high level of data integrity and security either on stand-alone workstations or as part of a client-server environment, and is available in both production and development versions. Micro Focus Transaction System can take advantage of multiprocessing hardware. Network-attached OS/2, MS-DOS, Windows/NT, Windows, AIX and Unix workstations can be used as "thin clients" to a Micro Focus Transaction System in three ways - as Remote 3270 Emulators, as Remote Dialog System Terminals, and as Remote ECI Requesters.

Different character sets

Application debugging facilities include transaction dumps, system traces, and the famed Animator source code debugger. VSAM file processing can be shared between the Transaction System and batch programs, with full integrity, using Micro Focus Fileshare. EBCDIC and ASCII environments are supported within the same region - and suites of programs and files with different character sets can reside not only on the same hardware and operating system but actually running under the same application, the company claims. It features comprehensive support of the CICS/ESA command-level application programming interface, enabling programmers to use Cobol applications and BMS map sets converted from CICS or other copies of Transaction System. It supports a variety of relational databases and the Micro Focus IMS Option or IMS Production System under the operating systems that support them - Informix and Oracle under Unix, including AIX; Database Manager and DB2/2 under OS/2; SQL Server, XDB and SQLBase, and support for other databases is planned. For those that need a greater degree of DB2 compatibility with IBM Database Manager or DB2 for OS/2, Transaction System also supports the Micro Focus Host Compatibility Option. Programs, resource tables, configuration files and application data can be shared between multiple network-attached Transaction Systems for centralised management of system resources. Applications and data access can be distributed across networked workstations, servers and CICS systems including Transaction Systems and IBM CICS Systems. Network communications between workstations, servers and hosts are supported via LU 6.2, TCP/IP, NetBIOS, Named Pipes and Novell Inc IPX. Transaction System also supports batch data access. No prices were given.

DEC READIES FINAL MIPS BOXES

Digital Equipment Corp's final Mips-based Ultrix machines are due to ship next month. The three DECsystem servers and two DECstation workstations use the Mips R4000 Risc. The Personal DECstation 5000 model 50 uses a 40Mhz CPU and replaces the model 33. It comes with up to 40Mb RAM, 1Gb disk, two Turbochannel slots and is rated at 43.8 SPECint92 and 40.9 SPECfp92. It costs £6,800. The 60MHz DECstation model 260, rated at 58 SPECint92 and 54.7 SPECfp92 comes with up to 480Mb memory and three slots - it starts at £12,800. The DECsystem 5000 model 50 runs at 50Mhz, the model 260 and DECsystem 5900 model 260 run at 60Mhz.

...FIRST DCE PRODUCTS

DEC last week announced its first full Open Software Foundation Distributed Computing Environment product, DCE for DEC OSF/1 software, available in July. It reportedly incorporates all the foundation technologies specified by the Open Software Foundation's architecture and consists of four components: Digital DCE Runtime Service, Digital DCE Cell Directory Server, Digital DCE Security Server and the Digital DCE Applications Developers' Kit. DEC is also providing custom DCE consulting and integration service for implementing DCE including technical training and design analysis. DEC anticipates adding DCE products for industry standard PCs, OpenVMS on VAX and Alpha AXP platforms and the company's implementation of DCE Distributed File System over the next 12 months. Pricing will vary with package components.

TRANSARC DCE AND ENCINA FOR SOLARIS

Transarc Corp will begin shipping its Distributed Computing Environment and Encina on-line transaction processing monitor for SunSoft Inc Solaris 2.1 and 2.2 from next month - development kits for both environments have been available for over a year. The UK's Protek Ltd, Investronica in Spain and Axlan in France will distribute the CD-ROM-based software in Europe. As part of its COSE effort, SunSoft is also expected to begin market, support and distribution of Transarc DCE for Solaris 2.2 once terms have been agreed. DCE Base Services which must run on every Solaris machine in a DCE environment cost \$300. DCE Call Directory Service and DCE Security Service which must feature on at least one machine in a DCE environment cost \$2,500 each. DCE Application Development Tools are \$150 and DCE Enhanced File Services, due in the fourth quarter, are \$3,000. DCE Media/Manula kit is \$600. Support costs 20% of the software list price.

NCR FORMS PAN-EUROPEAN CONSULTING AND DESIGN CENTRE

AT&T Co's computer manufacturing company NCR Corp has formed a new pan-European consulting and design centre, with the aim of providing multi-site and multinational companies with an integrated set of services that span national boundaries. The European Professional Services Centre of Expertise is based at NCR's systems engineering division in Copenhagen, Denmark and is operational now. It employs an international group of 20 senior consultants specialising in architecture, databases, applications development, project management and networking for multi- and parallel-processor systems. These consultants co-ordinate the work of over 100 specialists in the professional services divisions of local NCR subsidiaries. The specialists, in turn, provide systems support and technical and consultancy services to local customers. The consultants will also implement a "knowledge transfer programme" for users' technical staff. This consists of in-house seminars on the theory and practice of using multi- and parallel processor machines.

O2 TECHNOLOGY TO PUT ITS OBJECT DATABASE ON ALPHA FOR DEC FRANCE

O2 Technology SA, the Versailles-based object-oriented database start-up, this week announced an agreement with Digital Equipment France to implement O2 for the full line of Alpha AXP workstations and servers running DEC OSF/1. "The interest of Alpha is its performance, and software like ours demonstrates the performance of the machine. A 64-bit architecture changes everything; it's a super machine," said Francois Bancilhon, managing director of O2. Bancilhon says the agreement is initially for France only. "The people at DEC France are very positive. We will be doing joint marketing; right now, we're looking at attacking some new sectors together, such as geographic information systems," he said. He added that O2 is about to finalise an agreement with Siemens Nixdorf Informationssysteme AG, for "some kind of commercial cooperation in Germany." Siemens Nixdorf has already started implementing O2 for its remarketed version of Silicon Graphics Inc's workstations, he said.

MIPS RALLIES ALLIES TO INVEST \$150m IN JOINT T5 R-SERIES EFFORT

The Mips Technologies Inc subsidiary of Silicon Graphics Inc has rallied all its fabrication licensees to help with development of the next generation of its R-series RISC architecture to speed the design process. The partners are Integrated Device Technology Inc, LSI Logic Corp, NEC Corp, Performance Semiconductor Corp, Siemens AG and Toshiba Corp. The group plans to invest \$150m over the period of the programme. MIPS says the joint development includes funding for research and development, participation by partner design experts and semiconductor process development. The new part, code-named T5, is expected to deliver more than 200 SPECint and 300 SPECfp and to serve as the heart of the powerful desktop systems running Microsoft Corp's Windows NT and Unix operating systems. These efforts are expected to result in commercial availability of T5 and related software in 1994. T5 was first heard of here last year as the 500MHz, R10000 successor to the R4000 and R5000 RISCs (UX No 377). The T5 will be aimed at applications requiring high-performance audio, video and networked workgroup computing, and will be a speculative execution superscalar processor - that presumably means that it will execute the next set of instructions that come up before it knows whether the program requires them or does a branch; it will also include features for multiprocessing, multi-level caches and high-speed uniprocessor systems designs. Meanwhile, NEC Corp plans to begin fabricating Mips R-series RISC chips at its Roseville, California plant next year, at a claimed rate of tens of thousands a month.

APPLE SETS POWERPC MACINTOSH FOR FIRST HALF 1994

Apple Computer Inc last week duly announced its plans to enable users to run Macintosh applications unmodified on Unix servers, workstations and X terminals as Apple Services for Open Systems, and showed Macintosh System 7 running on a PowerPC 601. Its first PowerPC machines will appear in first half 1994, and the Centris 610 and 650 computers, Mac IIvx and IIvi, Performa 600 and Quadra 800 systems will be field-upgradable to the new CPU.

...EXPLORES JEDI OBJECT TECHNOLOGY FOR SYSTEM 7

Apple Computer Inc is not putting all its object-oriented eggs into the Taligent Inc basket, *US PC Week* reports. Instead, the company is investing in alternative object-based technology for System 7 and other environments. The company's key development is Jedi, a framework built on System 7 that is claimed will provide more comprehensive application-linking capabilities than Microsoft Corp's Object Linking and Embedding. The company aims to extend Jedi beyond System 7 to other environments, including Windows itself, and is expected to arrive as a product late this year or early next. Jedi grew out of an earlier development effort that led to Apple Events, Apple's application-messaging infrastructure, and AppleScript. "A venture like Taligent is inherently risky. We would continue to enhance System 7 even if Taligent were a sure bet," said Chris Espinosa, Taligent business manager at the Apple Developer Group. Moreover Apple, and its partner in Taligent, IBM Corp, have been downplaying expectations for the Taligent environment. The Taligent offering is a 32-bit operating environment being built from scratch around a new object model. The full-blown Taligent operating system is not due until mid-1995 or later. "Taligent won't replace 32-bit operating systems until the end of the decade," said Richard Guarino, IBM's assistant general manager, strategic development.

NOW BANYAN VINES DUE ON SPARC

With a native version of Novell Inc NetWare due on Sparc next year (UX No 423), Banyan Systems Inc's rival Vines network operating system is now being ported to the Sun RISC and is expected in the first half of 1994. Porting the Unix-based Vines to Sparc servers means MS-DOS, Windows, OS/2, Macintosh and Unix users will be able to share data, files, applications and print services with Sparc systems, the company says. Sun's Scott McNealy says the deal was forged after long-term discussions on how the two companies could work together. The two will integrate Vines network services with Solaris for large scale Unix-to-PC networking where it will be managed by SunNet Manager.

NCR DEBUTS MAINFRAME CLASS PENTIUM BOX - WORKSTATIONS AND NT SERVERS

NCR Corp claims to have the first mainframe-class system using Intel Corp's Pentium chip with the launch of its System 3555 symmetrical multiprocessor, announced today. According to NCR, the two to 16 processor 3555 will deliver up to 1,440 VAX MIPS and comes with up to 8Mb cache, 2Gb RAM and 112Gb of internal disk storage, increased to 2,000Gb with external disks. Other new systems in NCR's 3000 Series include the 3360 single or dual processor workstation - the dual processor rated at 224 VAX MIPS - the single or dual processor 3430 workgroup server, and the six processor 3455 and eight processor 3525 departmental servers. All run Unix System V.4 MP, while the 3360, 3430 and 3455 are also available running Microsoft Windows NT. Existing NCR 3450 and 3550 server users will be able to upgrade from the i486 via a board swap. The company hopes the workstation model will sell to both traditional RISC workstation customers, to Windows NT developers and as a customer service workstation. It includes a video coprocessor with 2Mb of memory to boost graphics performance, and (along with the 3430 server) comes with up to 512Mb RAM, 6.3Gb internal storage and support for up to 41 SCSI devices. All the systems include SuperVGA, SCSI peripherals, dual-ported memory, two-way interleaving and cache memory. NCR expects general availability by June for the workstation, third quarter for the servers, and "1994" for the 16 processor 3555. No prices were revealed.

IBM "PLANS A SINGLE CPU FOR ALL LINES"

As well as developing an AS/400 H-series processor around the Rios 2 RISC, IBM Corp is working on a parallel project to develop a single processor architecture that would become the basis of all its mid-range offerings in around 1995, the May issue of *IBM System User* believes. The new processor would likely come with the Taligent object-oriented operating system, which would support not only OS/400 and AIX Unix but also OS/2, Windows and NT as guest personalities. The drawback, and the reason for the AS/400 H-series development continuing in parallel is that OS/400 users would need to go beyond recompilation and undertake some degree of conversion to run their applications on the new processor. Since IBM is also downsizing the basic building block for its MVS mainframes with a view to moving to a moderately parallel mainframe architecture, it seems likely that the planned processor-Taligent combination would also succeed the CMOS ES/9000 chip that the company plans to make the basis of its future parallel mainframes over the next couple of years.

...SAMPLES POWERPC

IBM Corp significantly stepped up its efforts in the merchant semiconductor market late Monday when it announced that it is now sampling the PowerPC 601 RISC microprocessor, with production volumes shipping in the third quarter, and announced its entry into the application specific market with CMOS and BiCMOS process technologies and access to industry-standard ASIC design tools and new applications support services, aiming to deliver ASICs based on gate-array and standard-cell technologies for computer and other systems manufacturers. It released the 0.5-micron CMOS 5L process, which uses five metal wiring layers to achieve ASICs of up to 1.3m usable gates, and ASIC design kits supporting the tools from 20 vendors, including Cadence Design Systems Inc, Mentor Graphics Corp and Synopsys Inc. The PowerPC part is designed for use in low-end to mid-range desktop systems and costs \$275 for the 50MHz version and \$380 for the 66MHz version in quantities of 25,000 to 50,000. Other PowerPC products will include the PowerPC 603, targeted at laptop, portable and hand-held systems; the PowerPC 604, a high-performance processor aimed at servers and high-end desktop systems; and the PowerPC 620, a high-performance 64-bit microprocessor for workstations and servers. IBM Technology Products' customers will also gain access to CMOS 4S and CMOS 4LP, two of IBM's 0.8-micron processes.

MICROMODULE DOING ALPHA ON DIAMONDS

The Cupertino, California-based MicroModule Systems Inc management buyout from Digital Equipment Corp has been given a \$1.2m US Advanced Research Projects Agency subcontract to build a series of DEC Alpha RISC-based multichip modules using diamond substrates. The subcontract is part of a prime contract awarded to Norton Diamond Film Inc, and calls for a two-year development programme, with an optional third year. The goal is a practical, affordable and manufacturable diamond multichip module capable of handling the thermal management problems of current and next-generation high-power microprocessors, which increasingly exhibit the properties of furnaces and microwave ovens. MicroModule Systems has two tasks under the contract - to develop a high-density copper-polymide interconnect process on diamond. The manufacturing process will be used to build a functional diamond multichip module with two or more Alphas.

D&B TRIES TO REASSURE MAINFRAME CUSTOMERS AS IT MOULDS A NEW COMPANY

By Alison Hawkings

At its annual user conference in Washington D.C. last week, Dun & Bradstreet Software Inc attempted to allay concerns over its move into the world of client/server and open systems by promising users a more customer-oriented business strategy.

Hank Holland president and chief executive officer said the firm would continue to support its E and M mainframe series software for another seven to ten years, but would start to reduce research and development expenditure in favour of client/server over the next three years. D&B currently spends 57% of R&D funds on host based systems. Other user concerns included the high price of maintenance and product quality. Recent research carried out by the company shows that 92% of its existing 12,000 customers worldwide are reluctant to rush to open systems for the sake of fashion. Holland says "We're in the process of creating a new company and the plan is to make the transition to client/server as relevant to our customer as possible. If that means doing it slower than others then that's how it'll be." Over the next three years D&B says its business will evolve into three different areas. It expects the number of mainframe customers to decrease by 44% - they'll be interested in value added software to their current mainframe solutions. More than 38% users will have re-engineered their IT business strategies in favour of client/server environments and 18% of users are expected to downsize operations to mid range Unix systems for price/performance reasons. D&B hopes its support for Microsoft Corp's Windows NT via SmartStream will pull in large corporate personal computer users looking to upsize operations. D&B is also developing a range of migration tools.

Skeleton

Key to D&B's shift to client/server strategy is SmartStream, its Windows-based decision support and transaction processing environment with add-on finance and accounting modules for Unix and Windows NT systems. According to Holland, SmartStream will provide users with greater productivity gains, better decision support solutions than current offerings and improved information access to other D&B credit databases and external databases, such as Microsoft Access and Sybase Inc's SQL Server. To support distributed computing environments D&B says SmartStream will include support for Open Software Foundation Distributed Computing and Management Environments. The firm is also committed to integrating object technology to improve workflow automation, systems management and decision support functionality. D&B is currently developing a skeleton object-based framework and is in negotiations with several object software vendors to license technology. SmartStream supports a variety of Unix platforms including HP-UX, DG/UX and DEC Ultrix. The NT version is currently in beta test and will be available by the end of the year. SmartStream's biggest drawback is its lack of support for IBM mid-range AS/400 and RS-6000 systems. D&B seems to have forgotten that IBM is its largest mainframe customer base and says there are no plans to port to these systems for another year or so.

D&B Inc has hired Fred Newall, former vice president of NCR Europe, to head-up its European operations as vice president following the departure of Pierre Donaldson. D&B's European operation only reached 80% of its profit target although UK profits were up 25% in 1992 on sales that rose 17% to £32.4m. Newall will report direct to Hank Holland, president and chief executive officer, who replaces the retiring John Imlay.

KALEIDA LABS SUBMITS ITS SCRIPTX TO INTERACTIVE MULTIMEDIA BODY

Meantime the Kaleida Labs Inc joint venture between IBM Corp and Apple Computer Inc in Mountain View, California has submitted its ScriptX specifications to the Interactive Multimedia Association in response to the trade group's Multimedia Scripting Language Request for Technology. ScriptX is described as a fully-functional object-oriented scripting language and set of data specifications designed to enable the development and playback of a single multimedia title on a variety of personal computers and workstations, personal digital assistants and consumer electronics products. Kaleida has not given a release date for ScriptX.

HP OFFERS MULTIVENDOR INTEGRATION WITH NEW OPENVIEW APPLICATIONS

Hewlett-Packard Co is offering new management applications and a centralised systems integration component for the Unix version of its OpenView systems management environment. The new software leads the way towards managing IBM Corp and Sun Microsystems Inc kit as well as HP systems. Operations Center runs on a central system collecting and monitoring data from managed Unix clients, which may include HP, IBM and Sun Unix boxes. It provides tailored warning alerts and alarms for a central management system to act upon. Due in August, it costs \$14,700 - £13,400 - for up to 32 users. HP PerfRX, a system performance monitoring tool is now available for OpenView, priced at £5,000, and HP is also putting its backup and print management applications up on the environment. OmniBack - £7,000, \$7,650 - and OmniBack Turbo - £10,600 - are out now. OmniBack/Link, OpenSpool and OpenSpool/Link are due next month priced at from \$2,700 (£2,500), \$4,700 (£4,260) and \$2,700 (£2,500) respectively. HP's automatic software distribution system, OpenView Software Distributor, formerly known as Software Distribution Utilities, which features as a component of the Open Software Foundation's Distributed Management Environment, will follow in August priced at £4,000. An OpenView storage management system is still under development for the second half of the year. HP's network licence system - also included in DME - will be available for OpenView in July and costs £4,400, a distributed network advisor due in July will cost £1,800 and a Probe Manager, expected in September, will start at £2,270.

...CREATES INTEGRATED OPENWAREHOUSE

Hewlett-Packard Co has released HP OpenWarehouse, claiming it to be the first fully scalable open system for data warehousing and contrasting it with mainframe-based and proprietary data-warehousing offerings, and saying that the open systems approach enables it to offer data warehousing at a small fraction of the cost of proprietary systems. All Hewlett-Packard and third-party components that make up the OpenWarehouse are evaluated, lab-tested and integrated to reduce the time it takes to implement it and ensure robust, supportable installations, Hewlett-Packard claims. The first set of products integrated into OpenWarehouse are Red Brick Warehouse from Red Brick Systems Inc, Prism Warehouse Manager from Prism Solutions Inc, Extract from Evolutionary Technologies Inc, Enterprise Data Access/SQL from Information Builders Inc, Open Development Environment from Open Environment Corp and Hewlett-Packard's own Information Access. Later releases will expand the portfolio of software vendors and the company plans in due course to support business modelling through use of its OpenODB object-oriented database, enabling OpenWarehouse users to store, retrieve and use data in a consistent manner throughout their enterprise.

TATUNG RESPONDS WITH NEW MODELS

Tatung Science & Technology Inc has responded to Sun Microsystems Sparcstation 10 announcements by coming out with the Super Compstation 10 Series, a line of seven MBus-based workstations. Three of the new models incorporate one or more 50MHz Super-sparc processors, while others feature 36MHz and 40MHz versions. With prices starting at \$15,000, the company claims to undercut Sun prices significantly, and to offer more configuration flexibility. The seven Super Compstation 10 models are each offered with a range of options for storage, monitors and other peripherals. The Super Compstation model 10/30, out now, has one 36MHz Super-sparc and is rated at 86 MIPS, 44.2 SPECint92 and 52.9 SPECfp92, and the \$14,790 price includes 512Mb disk 32Mb memory. The 10/40, set for June, has one 40MHz Super-sparc and is rated at 96.2 MIPS, 52.6 SPECint92 and 64.7 SPECfp92. With 1Gb disk and 32Mb memory it's \$16,690. The 10/51 has one 50MHz Super-Sparc+ and 1Mb cache and starts at \$21,790 with 1Gb disk and 64Mb memory, from the third quarter. The 10/41 has one CPU, 1Mb cache and comes in June; the 10/402 with dual 40MHz chips and the 10/512, with dual 50MHz processors and 1Mb cache are both set for the fourth quarter; a four-processor 45MHz model is planned for first quarter 1994. They have built-in ISDN and 16-bit audio. Following, it says, growing demand for its Sparc-compatibles the company has also relocated to larger offices in Milpitas, from its former San Jose base.

SUN AMBUSHES AXIL - INJUNCTION CHARGES MISAPPROPRIATION AND THEFT

Sun Microsystems Inc quietly filed a civil suit in Superior Court in California on March 3 against Axil Workstations and its parent Hyundai Electronics of America, charging the San Jose, California-based Sparc cloner with misappropriation of trade secrets and theft of the layout and manufacturing blueprints for an unreleased Sun-developed system board code named Ambush. The suit asked the court for injunctive relief and monetary damages. Last week the court handed down a preliminary injunction forbidding sale of Axil's Model 230 SparcStation 10 clone and a temporary restraining order on its Model 310. Sun said Axil had no license from Sun to the board. The alleged theft is reportedly related to Axil's hiring a Sun engineer who is named in the suit. Sun said it was bringing action over the alleged theft to keep the playing field level, claiming Axil's illegal headstart decreased potential investment in the Sparc architecture. Sun is believed to be keeping a low profile on the suit lest it catch flak for restricting the clone trade.

APPLE CHOOSES INSIGNIA FOR DOS ON POWERPC/MACs

UK firm Insignia Solutions Inc, High Wycombe, Buckinghamshire, is poised to become a key player in the evolving new power structure. In addition to being Microsoft Corp's front-line defence against the forces of WABI and being the MS-DOS/Windows emulator on practically everyone else's box, Insignia last week became one of only 12 companies to get on Apple Computer Inc's "Inside Track" programme. It will be writing a native port of SoftPC for the Mac PowerPC and is due to be available when Apple first ships the machines in January or February. The SoftPC version that get on the Mac will be the full Windows product that Insignia just licensed from Microsoft. Boggles the mind, doesn't it. All those Windows and DOS programs legitimately running on an IBM-powered Mac. Insignia has labeled the product features of souped up anti-WABI SoftPC "SoftWindows" which is based on Bristol Technology's Red Baron technology. Insignia figures that emulation will become de rigueur on all machines by and by and that it will just become a utility house.

SCO PROMISES ONC+, DCE AND XPG4 THIS YEAR FOR ITS "SVR3.95"

Santa Cruz Operation Inc had been in discussions with Novell Inc for a NetWare client for its Open Desktop products - see front page - but those talks are more or less canned now that SCO thinks it'll be able to get the same stuff through COSE. SCO already has a licence to SunSoft Inc's ONC+ and says it'll deliver that on its latest Open Desktop and Server 3.0 software well before the COSE version comes along. SCO boasts it'll have the first COSE-compliant desktop on the market. As Unix System Labs hasn't yet delivered a combined Unix SVR4.2 ES/MP offering, SCO hasn't advanced its own tentative kernel ambitions in that area, describing its own system as "SVR3.95." SCO promises SVID 3 compliance and an X/Open XPG4 update release later this year, along with an OSF Distributed Computing Environment developers kit. The firm has no firm plans to adopt SunSelect's Windows-on-Unix Wabi system - although it has rights to licence - saying the technology still lacks support for MS-DOS and drivers. SCO claims 28% of all Unices sold on all platforms against SunSoft's 25%, though Open Desktop sales remain stuck at around 35% of its business instead of the 60% it envisaged at the launch of Open Desktop 2.0 this time last year. SCO wants more business at the high-end of the market - currently some 25% of its sales - and doesn't believe there is enough room in the Intel space for the four or more contenders now in line. SCO claims 850,000 licencees worldwide, with 200,000 upgrades or new wins last year - it will open Spanish and Swedish offices shortly.

INTEL'S \$5 BILLION CHIP - UNISYS TO OFFER 66MHz PENTIUM BY YEAR-END

To cover the glitch Intel Corp has created with Pentium - see front page - Unisys Corp has created the marketing rationale of the customer selecting the timing of its jump to the next generation rather than being forced to it by the vendor's phasing out existing technology. Intel's difficulties getting yields on 66MHz Pentiums leave Unisys, who has had a close collaborative alliance on chip design with Intel for the past two years, unable to say exactly when it go to the 66MHz parts. It guesses in the fourth quarter. It estimates that the 60MHz chips are 10% less powerful than the 66s, at least on integer performance which measures 64.5 Specint92 and 56.9 Specfp92. Despite these setbacks, which essentially put Intel back on the delivery schedule it first mapped out for Pentium, Unisys is quick to say how delighted it is it chose Intel's CISC over any of the RISC technologies. It is impressed with the amount of investment Intel proposes putting into Pentium saying that when the chip reaches the height of its production Intel will have spent \$5bn on it compared to \$100m on the 80386 and \$1bn on the 80486. It's half way through that figure now. Unisys uses this never-before-released measure to express the technological leap it believes Pentium represents. It's also a way of saying that Pentiums will be with us for a while, overlapping the life cycles of both the 80486 and P6, and that it will be some time yet before they reach a competitive price/performance curve. The follow-on P6 will represent an even greater though unstated amount of investment. Unisys basically feels however that with its price/performance and coming enhancements there is a lot of life left in the 80486 and that it will not be replaced immediately by Pentium, more the meat of early adopters, than the usual customer. The bulk of its business, it thinks, will be in 80486 machines possibly through 1994. Making 80486 boxes Pentium-ready is tricky enough, making Pentium machines ready for the coming P6s which break iAPX-86 compatibility (UX No 420) is harder. Unisys is involved in P6 design considerations and needs to insure there is balance among the processor power, I/O and video system. It is also involved in P7's definition. Unisys also intends to offer CTOS networked workstations and servers with Pentiums in the fourth quarter. Its new A7 entry-level enterprise server is also Pentium-ready, with availability to be announced.

CANON PLANS TO RESURRECT NEXT HARDWARE SIDE IN NEW US COMPANY

Canon Inc says it plans to resurrect NeXT Computer Inc's Redwood City, California workstation business. The company told *Reuter* that it will probably set up a new company employing NeXT technicians to develop high-speed workstations. Canon still holds 17% of NeXT which is hoping to continue as a software company. Reportedly 15 engineers have left NeXT and for 20% of the new company will kick off Canon's venture.

..."SUN IS THE ENEMY" SAYS JOBS

Meanwhile NeXT Computer Inc chief Steve Jobs looks to still have a real hate on for Sun Microsystems Inc. According to *UnixWorld*, he wrote a memo to employees about the COSE announcement, which ignored his existence, saying: "Many of us watched Sun compete with Apollo using slander and lies. We saw some of these tactics directed against us when we were a hardware systems company. However, I think the stakes are much higher now, and Sun is growing more desperate. For those of you who thought that Sun might not be our enemy anymore now that we are a software company - think again." Popular opinion believes NeXT is doomed and that Jobs should just can it. They say by the end of the year NeXT and Microsoft will probably be the only companies not part of COSE.

NEC GOES AFTER THE BUSINESS MARKET WITH NEW UNIX WORKSTATIONS

By Anita Byrnes

In Japan, NEC Corp has announced nine new models of its NEC Superstation 4800 series of workstations and SuperServer UP4800 series of servers. The new models also run the new System V.4.2 release of Unix System V, a world first according to NEC. The machines have been priced competitively, bearing in mind the Japanese pricing of Sun Microsystems's Classic and IBM's Powerstation, and the launch was timed on the same day as the announcement of new machines in DEC's Alpha series. NEC has begun to differentiate the "48 series" of workstations (named to distinguish but create associations with the Japanese standard PC 98 series) into three categories. The "48-Lite" series of desktop machines comes with a colour screen and is aimed at the business market and it includes the new 78 MIPS, 27SPECint92 EWS4800/110LT which comes with NEC's own 1,024 by 768 pixel colour thin film liquid crystal diode screen and is priced in the base configuration at \$12,272 and the similarly-rated EWS4800/310, which is the lowest priced Japanese version of System V.4.2 on a desktop RISC workstation, the diskless version being priced at \$5,272 and the stand-alone configuration selling for \$6,618. The "48 Trad" series includes three new models: the 4800/320 - with a 1,024 by 768 pixel display screen and 30% improved cost-performance, the 130 MIPS, 42SPECint92 4800/330 - which is targeted at multimedia applications - and the 130 MIPS, 60SPECint92 4800/360; the Trad line includes the previous generation 4800 models. The "48 Server" series includes the new models UP4800/605 and /615, low-priced servers (starting from \$14,425) with 32Mb memory and 1Gb storage. The UP4800/625 is targeted at small to mid-size transaction processing environments such as local banking systems and on-line order processing, while the high-end model UP4800/635 is based on a 67MHz R4400 chip and is an expandable configuration.

Modular software

The performance of the server versions range from 98 to 130 MIPS and 32 to 60 SPECint92. The operating software is available in modular fashion, with Encina having been selected for the transaction processing software, on the basis of its position as the de-facto transaction processing standard, as NEC sees it. NEC says its new focus on the business market instead of the scientific and engineering market is down to the 36% growth in the latter market. Last year NEC shipped 14,200 of the EWS4800 workstations, which was 120% up on normal sales for the previous year - excluding an extraordinary order for 6,000 units from Daiwa Securities carried over from the 1991-92 fiscal year - and anticipates growth to 20,000 shipments this financial year - growth which is stable in value terms, according to NEC. This time NEC used a US industrial design firm, Ideo Inc, for design of the exterior of the products, but denies that this presages any move to sales of the workstations in overseas markets. NEC said that initially in markets outside Japan it would look to sales through OEM channels - it currently has OEM relationships with Compagnie des Machines Bull SA, and Stratus Computers Inc, whose fault-tolerant systems it buys for sale in Japan.

SNI PICKS SPARC FOR POINT-OF-SALE CPUs

Product line consistency is not the strongest suit of Siemens Nixdorf Informationssysteme AG - first the company becomes a founder sponsor of the Open Software Foundation and then adopts Unix System V as its standard, now its US arm, Siemens Nixdorf USA, has turned to Sun Microsystems Computer Corp for point-of-sale control processors despite the fact that Siemens' chosen RISC - versions of which it fabricates - is the R-series. In the US, it says it will convert its Calypso point-of-sale application to run under Solaris on Sparc processors to create "a complete high-performance, low-cost, in-store system for retail organisations". The two will jointly market the resulting combination of Sparcstations and servers with iAPX-86-based point-of-sale terminals and applications developed by Siemens Nixdorf in the US. The new offering will be the first open RISC-based in-store system from Nixdorf USA, which has Montgomery Ward as a customer and claims 10 of the top 20 supermarkets in the world.

BULL CHIEF ORDERED TO COME UP WITH A PLAN TO SURVIVE WITHOUT STATE SUBSIDY...

Underlining the endless uncertainty that surrounds any industrial or commercial company controlled by the state, France's loss-maker Compagnie des Machines Bull SA has been given two months to come up with a viable strategy, French Industry Minister Gerard Longuet said after a news conference where he outlined his policies after six weeks in office. According to *Reuter*, Longuet said he did not exclude the possibility that foreign shareholders could increase their share of Bull's capital or dominate it - at present, IBM Corp and NEC Corp each has about 5%. Longuet says he has asked Bull chairman Bernard Pache to come up with proposals so that the company can live without huge cash injections from the state. He does not however see Bull following ICL Plc and becoming an 80%-owned subsidiary of a Japanese company, but he wouldn't say how much of the equity he would allow to pass into foreign hands. Some parts of Bull's activities are viewed as more important strategically for France than others, an industry ministry official told *Reuter*, declining to give details, but noted that even in a nationally strategic sector like electronic components, France contents itself with owning 45% of SGS-Thomson Microelectronics NV, with Italy as an equal partner and a small private holding held by Thorn EMI Plc. Longuet did say that SGS-Thomson would need a link with an industrial partner to satisfy its long-term technical needs.

...TURNOVER PLUNGED 10.6% IN Q1

And now facing probably the biggest crisis in its history, Bull last week reported that turnover for the first quarter of the year crashed by 10.6%, to the equivalent of \$943m. Sales slumped 16.5% to \$422m and rentals and services fell 5.1% to \$521m. The company did not say anything about the level of losses, but it is hard to improve profitability against a background of falling sales. The company is now in a regulatory climate where no objection would be made to either of its corporate investors, NEC Corp and IBM Corp, each with around 5%, greatly increasing their stakes in the company - to perhaps 25% each - but IBM has no cash to spare even if it wanted to get more involved with a company forever at the mercy of the shifting tides of French policy and NEC Corp, which two or three years ago would have jumped at the opportunity of making Bull a European and US outlet for far more of its products, faces a price war in its cash cow personal computer business back home and faces such a hard time that it has just seen its debt ratings cut - at a time when cheap capital is no longer available in Japan. Sources at Bull say that in the multi-annual plan, although Pache is likely to outline further potential partnerships and cost-cutting measures, it is difficult to imagine that the new French government will refuse all further financing for Bull, letting it run the risk of receivership and the dumping of 30,000 workers, at a time when France's biggest concern is retaining and creating new jobs.

NCD PC-XWARE X EMULATION FOR WINDOWS

Network Computing Devices Inc has the dedicated X-terminal business pretty much sewn up, and the Mountain View, California company is now moving in on the personal computer X Window System emulation business dominated by the likes of Canadian outfit Hummingbird Communications Ltd and UK firm XVision Ltd, with launch of PC-Xware, a single software package that it claims provides full X terminal functionality on personal computers for the first time. Its case is that full functionality previously depended on users integrating functions from separate vendors. Designed for machines running Microsoft Corp's Windows, PC-Xware is a direct conversion of the company's NCDware 3.0 software. PX-Xware includes 32-bit X server functionality, fully integrated terminal emulation, local and remote network protocols, and multiple local window managers - at \$545. It also offers the facility to manage and configure personal computers running X Window centrally and remotely. Designed for 80486- and Pentium-based machines, it is also designed to support Windows NT when it becomes available. Microsoft has apparently suggested that there will be a good market for NCD's product on NT - NCD dampened speculation that Microsoft might be enticed to bundle an X Window emulation product like PC-Xware in NT. As well as Microsoft Windows, there is the option to use NCD's Motif-like NCDwm as the local window manager, saving on network and processor bandwidth. It has full VT320 emulation for access to character-based applications on networks, and has the TCP/IP stack licensed from NetManagement Inc, and the XRemote protocol for high-speed serial communications. Out next month, it can also be had with NetManage's Chameleon for \$735, ChameleonNFS at \$800. PC-Xware is £450 in the UK. PC-Xware replaces NCD's existing PC-Xview for Windows package that it acquired for \$5m from the GSS division of Spectragraphics a year or more ago. NCD will continue to offer PC-Xview as its X Windows-on-DOS product.

XCELERATED SWIPES MABI MONIKER

We thought we were just being cute last week when we hung the tag MABI on Apple's multi-platform Cat in the Hat Macintosh Application Services (MAS) strategy (UX No 435). As it turned out we accidentally anticipated Xcelerated Systems trademarking the expression as the name for the technology underlying Liken, its pioneering two-year-old Mac-on-Unix product. Xcelerated said that it is extending Liken to the PowerPC. Liken already runs on Sparc, HP Series 700 and RS/6000. Xcelerated claims to support most of the 5,000 off-the-shelf Mac apps and have 10,000 users worldwide including virtually every Fortune 500 with a Sun Microsystems Inc or Hewlett-Packard Co workstation. It is miffed that after struggling to get where it has, the industry suddenly seems to be rallying around an unproven - if conceptually similar - port by Apple rather than its own available technology. Other sources observe that HP and Sun, who came to the MAS announcement as cheerleaders, did not exactly pledge to adopt it leaving only IBM who was already involved. Apple's shipping dates are also vague. Observers reflect that what Apple is trying to do is quite difficult. Reportedly many of the APIs Apple embedded in ROM have been lost over the years and are undocumented. Its software is also heavily wedded to the 68000 chip aggravating the move to RISC. Sources say Apple's project to move System 8 to the PowerPC, taking what was in the ToolBox and rewriting in C, is not going well. Quorum, the other Mac-on-Unix pioneer, maintains that market research indicates that users are not interested in having a second platform on their machines which is what Apple is essentially proposing to do but would rather have their Mac apps available under Motif as Quorum's products offer.

SUN PLANS RACK-MOUNT SPARCSERVER 1000

As expected Sun Microsystems Inc unveiled its eight-way Sparcserver 1000 machine last week (UX No 434). UK pricing goes from £35,000 for a uniprocessor model with 32Mb RAM and 1Gb disk to £72,300 for the eight processor version. As expected, the Mountain View, California-based company will offer a rack-mount version of the technology combining five Sparcserver 1000 units later this year. The server uses XDBus - co-developed with Xerox Corp - which is also employed in the high-end eight to 20 CPU SparcCenter 2000. The packet-switch bus uses slight changes in voltage to determine binary 0 and 1 and operates at a sustained rate of 200Mbps on the Sparcserver 1000. Sun expects to ship around 1,000 of the new servers by the end of the calendar year - several hundred by the end of its financial year in July. Sun will continue to manufacture the existing 600MP series multiprocessors servers until the end of the year. The company claims that servers will account for \$1bn of its business by the end of the year - they account for around a third of Sun's revenue now. The multithreaded, multiprocessing Solaris 2.2 operating system which is to run on these and other Sun Sparc systems is due later this month. Applications re-written specifically to take advantage of multithreading will begin to appear in the second half of the year, Sun says, but argues customers can derive significant performance benefits from running existing applications on multiprocessor machines with Solaris 2.2. Solaris x86 for Intel Corp architectures will move to release 2.2 later this year - from 2.1 now - Sun admits only to Compaq Computer Corp and AST Research Inc having taken the release for their iAPX-86 multiprocessors. The SunPro unit will deliver an MP Developer early access kit for developing multithreaded applications in Fortran, C or C++ for multiprocessing environments - including automatic parallelizing compilers - next month.

...AS SUNPRO TEAMS WITH IDE

SunPro is also integrating its SparcWorks Professional C and C++ development environments with San Francisco, California-based Interactive Development Environments Inc's Software through Pictures CASE tools using SunSoft's ToolTalk application integration system. The two claim it will allow developers to reverse- and forward-engineer C code without having to manually update information in each environment. SparcWorks C developers will be able to generate structure chart and data diagrams in IDE's C development environment to prototype C code, which can be analysed, debugged and compiled from SparcWorks. Developers can generate C++ code from IDE's object oriented design C++ graphical editor for use in SparcWorks C++. The work will be complete by the second half of 1993.

CONCURRENT REAL-TIME UNIX IS NOW

SVR4.2, HAS TIME X, FT SYSTEM ARRAYS

Concurrent Computer Corp, which recently posted better than expected third quarter results (see below), has opted to take Unix System Labs' Unix System V Release 4.2 MP as the operating system for its next generation of real-time Unix systems, due out by the end of this calendar year (UX No 402). The new multiprocessors, using the MIPS R4400 chip, will initially be offered with Concurrent's existing Unix implementation, with the SVR4.2 MP version becoming available six months later. Concurrent is currently working on integrating the system with its own real-time and multiprocessing technology, which goes beyond the simple symmetric multiprocessing features offered by the USL version - Concurrent customers using the machines for applications such as simulation, measurement and control, weather and aerospace and signal intelligence analysis often need more control over how applications use the multiple chips. Despite the extensions, Concurrent says it likes to stick to the standards wherever it can. It is also a leading member of the MIPS ABI initiative (along with other MIPS users such as NEC, Tandem, Pyramid and Silicon Graphics), and says it is perfectly happy with its choice of chip. The company has also announced a real-time version of X- Windows, which it says it is perfectly happy to licence to other interested parties. RealTimeX brings determinism to X applications, says the company, meaning that Windows containing high-priority information can be given "pop to the top" priorities so that important warning messages are displayed. And the company also rolled out the second generation of its fault tolerant Redundant Array of Inexpensive Systems (RAIS) environment, which it claims extends the RAID redundant disk array to a higher level. Using the RAIS software, based on Sun Microsystems' ONC distributed computing and with a Motif-based front-end, users can tie VAX/VMS, Unix workstations, PC and Macintosh client systems to pairs or groups of Concurrent servers, with automatic re-routing in the event of failure. This provides fault resiliency at the systems, network and disk level, says Concurrent, with software intelligence to manage the resilience. Up to four redundant networks and "unlimited" redundant systems can be supported. OSI networking extensions and distributed computing tools based on the NetWise/Sun ONC remote procedure call, including an X/Open compliant Distributed Transaction Recovery system, were also launched.

...RIDS ITSELF OF MORE DEBT, POSTS PROFITS

Concurrent's recovery is now well under way, according to the company's director of worldwide industry marketing and business development, Dennis Tinley. Third quarter net profit was up 15.2% at \$1.0m on sales of \$56.1m, up 2.2%, with net for the nine months at \$2.7m. The company is still paying off the debts incurred when it simultaneously bought itself out from parent company Perkin-Elmer and acquired rival real-time vendor Masscomp, back in 1988 (UX No 191), but last week filed a public offer of sufficient new shares to raise about \$60m. This will go towards paying off most of the senior debt, said Tinley, which currently stands at \$67m. Interest savings will make the issue "anti-dilutive", he said. Under the management of CEO Denis Brown, and financially re-structured (UX No 402), the company has been profitable for the last six quarters and is once again in growth mode, although margins are down and international sales weak. Concurrent has around 1,800 employees worldwide, compared with 3,500 at the point of its Masscomp acquisition. Two thirds of its business is still proprietary, and 40% comes from servicing its 30,000 system installed base.

HITACHI DUBLIN'S OPTICAL NEURAL NETWORK

Researchers at Hitachi Europe Ltd's Dublin Laboratory and the physics department at Trinity College have co-developed the first system to combine optoelectronic semiconductor arrays with complex neural networks. This work could eventually lead to better machine vision systems and optoelectronic neural integrated circuits that would literally enable parallel computers to process data at the speed of light. The present system comprises 21 input neurons, connected by optical arrays to a single equivalent output neuron. Images are presented electrically to an optoelectronic array as a bit pattern which are then sent in parallel by the device to a laser beam. As this encoded beam passes through a second optoelectronic array, the various stages of the algorithm are executed. The light is then collected at a single detector and classified electrically. The network itself is built from optoelectronic quantum well devices. These contain layers of Gallium Arsenide only a few atoms thick and are supplied by Sheffield University. It is a so-called higher order network - a more complex mathematical model than conventional neural networks - and recognises images that are presented in different positions or are poorly defined. And because it makes use of the speed of light for complicated parallel interconnections, it can still handle the large volume of calculations - or weighting as it is called - involved in the learning process quickly. This has important implications for future high performance computing, according to Hitachi.

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DEC chief Robert Palmer's restructuring of the company into nine separate sales and marketing groups from July 1 means some 300 UK staff will be cut. Meanwhile, Chris Conway takes over as chief executive of DEC UK from chairman Geoff Shingles.

DEC appears to have chosen not to publicise the fact - reported here back in February (UX No 423) that its preferred Unix implementation, OSF/1, can also run Unix SVR4 and Ultrix applications natively - the built-in compatibility framework that allows this is now being called Habitat.

Du Pont Pixel Systems Ltd, Egham, Surrey, says it is now shipping its Sparc implementation of the Silicon Graphics Inc PX/Iris Explorer graphical application builder. It uses the Iris GL 4.0 graphics library, claimed to be five times faster than Sun's XGL library. Prices start at £4,000 or £3,000 until the end of June. +44 784 470 555.

San Diego, California-based RDI Computer Corp is to distribute IXI Ltd's Motif-based Panorama software on its range of BriteLite Sparc laptops.

Sun assures us its WABI Windows-on-Unix software can print now (UX No 434) - a bug the system was hurriedly fixed. WABI will be bundled with Sun kit from August. Dynamic Data Exchange functionality is included, Object Linking and Embedding will follow, with OLE 2.0 due next year. Win32s and Win32c application programming interfaces are promised for 1994.

Unix workstation users can now use Windows, MS-DOS and OS/2 clients to access applications running on IBM SNA and wide area network hosts via SNA and OSI LAN Gateways for Unix from Eicon Technology Corp, Montreal, Canada. Prices start at \$1,500 for SCO or USL Unix. +1 514 631 2592

Denver, Colorado-based Information Foundation is offering its a Unix SVR4.2-based Enhanced Unix Desktop for Intel Corp platforms at \$250, which includes a full TCP/IP implementation.

Menlo Park, California-based Mac-on-Unix house, Quorum Software Systems, has introduced version 1.5 of its Latitude development kit for building Unix versions of Apple Macintosh applications: it includes enhanced display performance, can read and write Mac disks on Unix workstations, supports Motif on Sun and Silicon Graphics boxes and MacApp-based applications: prices start at \$6,000.

Pencom Software has written three objects to go on NeXtstep-for-Intel. They include an international suite of objects Pencom says provide automatic translation from one language to another as well as currency translation; a qualified fetch from a database without code and a multiuser distributed record-locking object. It intends to demo the stuff at NeXt World next week and then sell them separate from NeXtstep.

IDC's European Unix Expertise Centre in Copenhagen, Denmark, has published its first report on the likely impact of Microsoft Corp Windows NT. It expects a slow take-up of server versions of the operating system, and forecasts NT will take a 6.5% share of all server systems sold in Europe by 1996. Although it will have overtaken OS/2's share by this time, Unix will still account for some 32% of servers systems sold by this time, the market research group says.

Following its availability on Hewlett-Packard Co HP 9000 machines, NCR Corp is expected to make its Top End transaction processing monitor available next on Pyramid Technology Corp kit: the AT&T Co firm is planning versions for a variety of Unix systems.

Bloodied but unbowed, Motorola Inc says by the year 2000 it will be delivering 120 million 680x0s annually from 10 factories worldwide. That's 2,000 microprocessors an hour 365 days a year. It also figures that by the turn of the century the geometries will be 0.1 micron and the transistor count near 100 million.

We had a chat with SunSelect after it got back from its WABI announcement and its intentions are to make WABI an "integral part of every desktop" and get it "bundled with every Unix desktop" that goes out. It was evasive about why IBM Corp and Hewlett-Packard didn't show up as licensees but it's obviously expecting their announcements by and by. The talk still maintains that the two are trying to get better terms and conditions from Sun.

According to the latest *FT Systems* newsletter, Pyramid Technology Corp's next hardware product will be a high-end MIPS R4400 system code named Jolt that starts shipping this summer. It also claims Unix System Labs is interested in the company's new Visual System Manager software.

Reflecting on COSE, market researcher Summit Strategies claims Unix has already lost the desktop wars. It believes Unix is unlikely to capture even 10% of the 32-bit commercial desktop market, falling way short of the 20% or 30% needed to get broad market, ISV and channel support. It also frets that vendors will use COSE as an excuse for promoting the client as Unix' leading entry into the market, confusing the customer and diluting their own focus from the server, Unix' real opportunity.

Digital Equipment Corp executives remark that the Open Software Foundation better make some progress in the coming months stitching up the wounds of the old Unix wars and accommodating itself to new alliances or else it's going to have a lot of trouble getting funding from its sponsors next year. DEC of course is one of those sponsors and OSF thrives on the factionalism that has marked the Unix community. Some industry watchers espouse the theory that says Hewlett-Packard Co and IBM Corp picked on the COSE move as a way out of OSF and that OSF could eventually find itself with its funding terminated and its sponsors telling it it's a for-profit software developer.

The Australian Unix Users Group is staging its AUUG 1993 conference and exhibition at the Sydney Convention Centre September 28-30.

Sources note that Adobe Systems Inc did not go along to Apple Computer Inc's MAS shindig as many hoped.

Starting this month, *RISC Management* spins out its benchmark supplement into a focused stand-alone publication called BENCHpress Quarterly available for \$195 a year to new subscribers. Meanwhile, the regular newsletter notices that Sun is phasing out its non-MicroSparc/non-SuperSparc products and says the ELC, IPC and Cypress/Ross modules used in the Sparcserver 600MP series will all disappear in October.

Unix now has a friend at that fascinating widgets start-up General Magic, haven't many an ex-Apple staffer. Ex-Sun/ex-Rational executive Bill Keating has turned up there as vice president, partners and licensing. The company is of course concerned with the operating system environment but realizes the real place to be right now is at the communications end. It believes its TeleScript technology will be to computers what Postscript was to printer. Naturally this will come to encompass Unix and Windows NT.

Sources say Applix Inc has lost another executive. Vice president of sales Tony Giannelli has gone to start-up OpenBook as vice president of marketing.

Xhibition 93 has managed to get COSE to agree to a question-and-answer session by application developers and computing managers during the Xhibition Executive Conference in San Jose. The session will be held Tuesday June 8 from 8:30am to 10am. COSE architects will also be on hand to describe application integration opportunities later in the week.

UK Birmingham-based IMI's Uniplex Ltd office automation software outfit will next week announce the appointment of Margaret Gymer to the post of director of international services: she'll head a new service and support unit the company is starting to look after that side of the business, which is now said to account for some 20% of the company's revenue.

Not pausing for breath, and following ports to Hewlett-Packard Co's PA RISC and Sun Microsystems Inc's Sparc - see page 3 - Banyan Systems Inc will this week reveal plans to put its Vines network operating system up on the IBM Corp RS/6000.

Sun promises new graphics and image processing subsystems that'll take advantage of its new-found multiprocessing prowess.

Last month Intel Corp was reportedly still sending out Pentiums in quantities of one via a car delivery service - and demanding the things back again once they'd been installed and tested in the prototype boxes of less favoured customers. Intel's problem now appears to be finding a way of getting enough good Pentiums parts off the large die to be able to make any money on it.

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COSE SHOOTS FOR BREADTH OVER DEPTH IN DESKTOP SPEC

With its self-imposed end-of-June deadline for publishing a common desktop environment specification now just six weeks off, the Common Open Software Environment firms - Hewlett-Packard Co, IBM Corp, Santa Cruz Operation Inc, Sun Microsystems Inc, Univel Inc and Unix System Labs - are circulating (internally) a draft form of the "Process Paper" which covers the scope of COSE and describes who will do what for the first of its promised offerings. The brief contains schedules and an organisational chart. We understand the intent is to go for breadth first, and depth - how the application programming interfaces will actually work - later. It plays hard on the so-called "90-10" rule, claiming that 90% of the code is already out there and that only 10% needs to be written. We understand they want to give the impression that the scope of the common desktop is well understood - but in the full knowledge that underneath, the details have not been fully worked out. One insider said he could not believe the amount of code that will eventually be involved. What his firm is worried about is how it will be able to meet its commitment to deliver an interim COSE-like product before the end of the year. The most pressing requirement is for a COSE developers kit - existing customers of OSF/Motif, IXI Ltd X.desktop or HP's Visual User Environment desktops won't get upgraded until something is out - and the danger, according to the source, is that someone will break ranks and ship a developers kit without the blessing of the others. Presently, each of the COSE participants is pledged to brief its partners and licensees on the ramifications of the COSE movement. Unix Systems Labs, by virtue of its position as Unix mama, wanted to be first, and did its pitch the week before last with X/Open Co Ltd explaining the fast track process and HP observing. Meanwhile Microsoft Corp is waging its own spoiling campaign and is going around trying to persuade small software developers to do Windows NT ports first. The Tuesday morning session at June's Xhibition show, in San Jose, California - which will include all the COSE people and Microsoft (UX No 436) - will be the milestone event where all this is revealed. Just don't ask any tricky questions about what the object model is or how the applications will communicate with the desktop.

...DEC COSIES UP, MAY OFFER HABITAT PERSONALITY

Digital Equipment Corp also has a copy of the paper, and some of the COSE people think DEC is now only a photo opportunity away from announcing that it's becoming a COSE too. DEC, on the other hand, which has been having COSE talks at both the strategic and technical levels, feels there might still be a few loose ends to tie up, some of them perhaps circulating around the "Process Paper" expected to be made public soon. DEC has found it has another piece of technology to throw on the COSE heap. Besides its low-profile OMG Common Object Request Broker Architecture-compliant Application Control Architecture Service (ACAS) application integration scheme (UX No 435), it thinks COSE might like Habitat, its technology for allowing an operating system to take on the personality of another as it does with Unix SVR4 on its OSF/1 platform (UX Nos 423, 436). It wouldn't expect fellow COSEs to implement it right away.

..AS JAPANESE FIRMS START COSE INTEREST GROUP

And Japan is now in on the COSE act too. Fujitsu Ltd, Toshiba Corp, Hitachi Ltd and Yokogawa Hewlett-Packard Co are forming COSE Japan Special Interest Group, a counterpart, they say, to the existing operation in the US. The effort is apparently different from DICOP, an action previously undertaken by Mitsubishi Electric Corp, Unisoft Ltd, In C Olivetti & Co SpA, Novell Inc, Unisys Corp, Seiko Epson Co, ASCII Corp and even DEC to produce a Japanese version of the COSE desktop. The firms were briefed on COSE shortly after the COSE announcement and reportedly encouraged to make their voices heard. COSE Japan says it will make public the specifications for Japanese-language processing functions necessary for their domestic market. Shipments of products meeting their standards are expected in the first half of 1994.

MICROSOFT TO DEBUT 30-WAY NT SERVER COURTESY OF SEQUENT

Microsoft Corp is going to pull out all the stops this week at Windows World, its launch pad for the infamous Windows NT operating system. Last week, practically at the last minute, it reportedly decided to press the code for a 30-way system on to its first CD-ROM. Previously it had only been expected to be able to offer a 16-way system in its first go-round. Sequent Computer Systems Inc, a key partner in Microsoft's NT-on-multiprocessors push, is believed to have sent Microsoft the 30-way code changes a while ago but Microsoft was not expected to act on it so quickly. The Beaverton, Oregon-based Sequent is also expected to have a few tricks up its sleeve for this week's roll-out. It is rumoured to be ready to show two pre-production prototypes of its high-end WinServer 5000 series (UX No 434), one being the much-anticipated 30-way box carrying a mix-and-match assortment of Intel Corp Pentiums and 80486 chips, that in itself is a design feat, and the other an 18-way WinServer 5000 fitted out with only 60Mhz Pentiums, a modern-day exercise in conspicuous consumption considering the rarity of the chips. Sequent, meanwhile, is preparing for its early NT customers to start deploying soon. To straddle the hurdle between its Unix commitments, where its revenues come from, and NT, Sequent last week reorganised its management to give it more strategic depth. The general manager of its NT business unit Paul Gifford was named to the post of vice president, systems architecture responsible for bringing NT, the hitherto poor relation, into the mainstream and figuring out how it plays together with Unix. It has also named former UK marketing director boss, Mark Miller, vice president of marketing and given the new post of vice president of corporate planning to Gael Curry, anticipating a quickening in sales. Former senior vice president of marketing Dennis Peck is now consulting for the firm, mostly on large-scale Unix issues, as a result of both the merciless California real-estate market and a highly successful wife who sells computers for another company, two reasons that make his moving to Oregon impossible. (Live with it, guys. It's the ladies' turn - MO'G)

COMPUTER ASSOCIATES SHIPS CA-UNICENTER FOR HP UNIX BOXES

Islandia, New York-based Computer Associates Inc will begin delivering CA-Unicenter, its systems management product for client/server environments, on Hewlett-Packard Co HP 9000 800/700s this week (UX No 382). It has also set up a worldwide VAR and distribution channel to market CA-Unicenter and a new line of Unix products. CA-Unicenter will come in two parts: one configured for the server, CA-Unicenter/325; and CA-Unicenter/125 for the client. The server software provides the core management functions including security, scheduling, print spooling, performance management, resource accounting, chargeback and report distribution. CA-Unicenter/125, which operates on HP's series 700 workstations, includes file management automation, backup, restore and archiving and networked security functions. CA-Unicenter will be made available for Sun Microsystems Inc Sparcstations, IBM RS/6000s and AS/400s, and Novell Inc NetWare by the end of the year. Support for Microsoft Corp's Windows NT will be added by the second quarter of next year. Early CA-Unicenter kits have already been delivered to more than 200 Unix resellers worldwide, it says. Prices for CA-Unicenter start from \$25,000 up depending on the number of modules required. CA is also porting a string of proprietary software to Unix including: Masterpiece Financials, its decision support and accounting software; SuperProject, a project management tool; DataCom, a relational database and Telon, its own application development environment. These products will be available on HP machines by the fourth quarter and marketed through its new third party sales channels. +44 753 577733 or +1 619 452 0170.

ICL PITCHES IN WITH TEAMSERVER F5

It was Pentium day last week, and ICL Plc weighed in with the TeamServer F5, boasting a dual-bus architecture, specifically designed to loose the full processor capacity and high-speed caching architecture. The company is positioning the box as a local network or Unix application server, but it chose to announce its "strategic support" for Windows NT at the same time. ICL is only announcing shipments of the 60MHz processor to start with - a pragmatic response to the shortage of the high speed parts. Indeed, on the slower systems, John Arnell, business manager with the company's Personal Systems division admits "we could not meet demand of any substance in the next month". Bulk ships will begin around the third quarter, he says, with an entry level server price of below \$10,000. At around the same time, the first 66MHz versions should begin to trickle out and the company says that we should also expect a Pentium-based desktop machine in the ErgoPro range. Newer members of the existing FX server range are Overdrive upgradable.

...AST RESEARCH HAS A FULL HOUSE

AST Research Inc announced the Premium SE P/60 server, Manhattan SMP multiprocessor and Premmia P/60 desktop. Premium SE P/60 estimated retail prices will go between \$7,500 and \$9,500. Manhattan SMP prices will range from \$32,000 to \$36,000, and Premmia P/60 retail prices will go from \$5,500 to \$8,000, with first ships in July.

...SOME MACHINES MAY FRY CHIPS

Users planning to use the Pentium OverDrive upgrade socket on 80486-based machines should beware, says *US PC Week* (but apart from individual users with only one machine, who actually wants to upgrade rather than bequeath and buy new?): some machines with the P24T socket do not meet Intel Corp's requirements for cooling, and if upgraded could overheat and fail, says Intel. Dell Computer Corp, Digital Equipment Corp, AST Research Inc and Advanced Logic Research Inc say they do meet the specs.

CST BOOSTS ALTOS SALES

UK, Leeds-based CST Distribution, the Acer Group Altos arm of CST Group Ltd has reported booming sales figures for the first quarter of 1993. January sales to UK resellers rose 30% to £290,000 and February saw a record £350,000 turnover. This was equalled in March with a gain of 45% on the same month last year. Its the year-old mid-range 4500 system which has generated most of the sales - new configurations of the system are due late summer. CST has joint marketing agreements with Norwich-based Foundation Systems Ltd, Nottinghamshire-based Systems Development Consultants Ltd, Select Business Systems Ltd of Dundee, Scotland, York Computers Ltd and Leeds-based LSI Computers Ltd.

PROPRIETARY AND NETWORK OPERATING SYSTEMS, NOT UNIX, WILL LOSE OUT TO NT, SAYS INFOCORP

Unix will continue to maintain its grasp on the high-end multiuser server market for the foreseeable future, according to a report by InfoCorp. It says Windows NT will only have a 12% share of the server market - 11% in revenue - by 1997, by which time Unix should have 64%, or 62% by value. It says Windows NT revenue will be won primarily at the expense of proprietary systems - which will slip from 29% to 22% revenue market share - and other network operating systems such as OS/2. Proprietary systems will lose slightly in terms of units shipped - Unix will drop from a high of 70% in 1992 to 64% in 1997, while other network operating systems will slide from 20% to 15% in 1997. InfoCorp expects shipments of multiuser systems with an average selling price between \$15,000 and \$1m to grow from 509,000 units in 1992 to 643,000 units in 1997 - a compound annual growth rate of 6%. The server market where NT will be deployed is expected to have a compound annual growth rate of at least 21% up to 1997 - growing from 34% of the total number of systems shipped and 18% of manufacturers' revenue in 1992 to 67% and 34%, respectively, by 1997.

UK FIRM HAS COBOL-TO-UNIX TOOL

UK software house Northern Exposure Consultants Ltd, Manchester, has introduced AutoM-IX, a Micro Focus-based Cobol-to-Unix migration tool for financial and accounting mainframe software. AutoM-IX is based on PowerDrive, the firm's own 4GL, and converts IBM MVS Cobol applications to Unix without modifying code, the company claims. To do this, the tool strips the application of its database, graphical front-end, transaction processing monitor and recompiles it under Micro Focus Cobol. AutoM-IX replaces application features, adding access interfaces for Sybase, Informix, Oracle and Ingres relational databases and other third party 4GLs to the code. AutoM-IX runs on a variety of Unix platforms including SCO Unix, AIX, Ultrix, Solaris 2.1 and HP-UX. Northern Exposure has the stuff out at 26 reference sites across Britain including Somerset, Hatfield, Berkshire, Hackney and Tower Hamlets local authorities and at ICL plc, Westland Helicopters, British Steel, Rascal Rediffusion and PowerGen. An average migration contract costs £100,000. +44 61 236 0535.

PATROL HAS NEW SYSTEMS MANAGEMENT TOOL

Patrol Software Inc has put some new systems management software up on HP, IBM, Sequent, Silicon Graphics and Sun platforms. The Redwood Shores, California-based company claims DDS/Patrol is an object-oriented systems management tool that can automatically monitor and management distributed applications, databases and systems. It says the system can act as an interface to the Open Software Foundation's Distributed Management Environment and runs under Motif. Patrol consists of a master console and an agent. Agents run on each monitored machine gathering statistics and forwarding alerts and other requested information to the master console. Object class descriptions and rules for monitoring are sent to the agents and are stored so that the agents don't need to communicate with the console except to report alerts and graphing data, cutting down on network traffic, the company says. The Patrol console presents information from the agents. The package can be tailored for a variety of databases and applications and comes with a variety of tools and libraries including Oracle, Sybase, Informix, Ingres, Oracle Financials, software distribution, security, batch management, backup management and help desk management. +1 415 508 2900.

ODI DEBUTS OBJECT MODULE FOR NETWARE

Object Design Inc, Burlington, Massachusetts, has released ObjectStore NetWare Loadable Module Server, a version of its object-oriented database for Novell Inc NetWare networks. NetWare is already available with HyperDesk Corp's Distributed Object Management System, HD-DOMS, which in turn is being integrated with ObjectStore, based around the Object Management Group's Common Object Request Broker Architecture. Meanwhile, Cadence Design Systems Inc, San Jose, California, will use ObjectStore, to develop its next generation electronic design automation tools and Design Framework II products, and DEC has also taken ObjectStore as a data repository with its PowerFrame software. PowerFrame is an EDA-oriented data management system running on Sun, HP, IBM and DEC boxes.

SIEMENS NIXDORF EXTENDS OEM PACT WITH SILICON GRAPHICS TO CHALLENGE...

Siemens Nixdorf Informationssysteme AG has extended its OEM agreement with Mountain View, California-based Silicon Graphics Inc to cover the Challenge and Power Challenge server lines, on undisclosed terms. The German will add the Challenge network resource server to its line as the SC800 and the Power Challenge "supercomputing" servers as the SC900. The Challenge starts at \$20,000, the Power Challenge at \$100,000.

...GETS CLOSER TO PYRAMID - WILL TAKE TOP-END MACHINES OEM

And Mountain View, California-based Pyramid Technology Corp will also benefit from the broadening of SNI's OEM position, this time on joint sales and support activities. According to *Computerwoche*, not only will both companies' support teams work together, but the two also intend to set up a Competence Centre at Pyramid Technology GmbH's headquarters in Grasbrunn near Munich. This will undertake technical sales support, look after both SNI and Pyramid customers, and provide staff training. Project development, European sales co-ordination, customer requirement analysis and the subsequent development of tailored systems will all be carried out from there. Also, while in the past SNI simply enhanced the functionality of Pyramid's multiprocessor machines, it will henceforth sell entire systems OEM under its own label. This includes Pyramid's top-of-the-range Unix box with 24 processors, which can, in some cases, exceed the performance of the largest BS2000 mainframe. Until now, Siemens Nixdorf RM600 Unix boxes incorporated a maximum of 12 processors.

...BRINGS ONE-STOP-SHOP CONCEPT TO UK WITH SAP'S R/3

Siemens Nixdorf Information Systems Ltd is extending its "one stop shop" fixed price hardware-software-services resource planning system, R/3 Live, to the UK. R/3 Live, which was first implemented in Germany last year, combines Siemens own hardware and services with the modular SAP R/3 system software from SAP AG of Walldorf, with which Siemens has a European agreement. According to the Gartner Group, the SAP R/3 system is destined to become the industry standard enterprise resource management system. It is suitably complex to have taken 600 people five years to develop and succeeds its 10-year-old predecessor, R2 which has been installed in some 1,500 worldwide sites. R/3 is a Unix-based client-server system that comprises components for handling general ledger, accounts receivable, accounts payable, consolidation, personnel management, sales and distribution, production and materials control. It runs under Sinix, BS2000, Ultrix, VMS, HP-UX, MPE/XL, AIX, OS/400, VSE/ESA and MVS and supports the Oracle, Informix, DB2 and SQL/400 databases. X/Open specifications are used for low-level interfaces and communications standards include EDI, SNA-LU6.2, CPI-C and future OSF/DCE/DME elements. It conforms to the Common User Access standard and Motif and fully supports Windows. As part of Siemens' R/3 Live package, clients are offered a full business analysis and feasibility study on the basis of which a fixed fee is then agreed for system implementation. It is hoped this will attract customers wanting to avoid the costs and anxiety of development. The company is also setting up a dedicated R/3 Live of some 20 international support centres. It is anticipating that the majority of customers will not require a full hardware-software combination but will likely need R/3 Live built round their existing systems. Typical projects are expected to be split fairly evenly between hardware, software and services. Siemens is planning to extend the service to the Benelux countries and Scandinavia by the end of the year.

IBM ADDS SINGLE-CHIP RS/6000 230 AT \$4,800

The process is painfully laborious, but with every announcement, IBM Corp is getting closer to acquiring the competitive edge that is the difference between survival and oblivion in the Unix business, and last week the company filled in a few gaps in its RS/6000 line, the most challenging development being a wind up of the clock on the single-chip Rios processor to create a 45MHz Model 230, which starts at just \$4,800. The 230 is designed to be an entry desktop workstation or server and has 8Kb of mixed instruction and data cache, and an additional 128Kb of level 2 cache. It has integrated SCSI and Ethernet controllers, takes up to 64Mb memory and up to 1Gb of internal disk and can take up to seven SCSI devices. The new Powerstation 23T is a workstation model with a Gt1x graphics adaptor with appropriate cable, 400Mb disk, keyboard, mouse and a new Powerdisplay 16S standard at \$8,500; without the display it's a 23W at \$6,700. The 23S has 1Gb disk and eight-port RS-232 adaptor at \$8,900. The Model 23E is an upgrade from the 220 series. The Gt1x 8-bit two-dimensional graphics adaptor offers two to three times the performance of the Gt1; most products ship May 28, but the 23T follows June 4, and the 23E upgrade and GT1x on the 220 are July 16. The new Powerdisplay 16 is a 1,280 by 1,024 pixel flicker-free display with auxiliary power, video signal redrive and Premium OCLI screen coating at \$2,675. There is also a Powerdisplay 19 version at \$3,950. There are also new 50MHz Powerstation 36T and 62MHz 37T systems, packaged desktop three-dimensional graphics workstations for applications such as CADAM and Catia. They come with Powerdisplay 16, Gt4e colour graphics adapter, keyboard, mouse, 32Mb memory and 400Mb disk; prices go from \$12,950 to \$25,070. The new line-up is completed by the 550L entry-level desktop server with 41.6MHz processor, 32Mb, 2Gb disk and SCSI and Ethernet at \$25,500, and the base configuration for the 580 is enhanced to include the SCSI-2 High-Performance Internal input-output controller as a standard feature. The new Power display 16 and 19 are now also available on the desktop models. A UK announcement is expected over the next week or two.

...ADDS WINDOWS 3.1 SUPPORT IN OS/2 2.1

IBM Corp also duly announced the 2.1 release of OS/2 last week, describing it as an enhanced OS/2 32-bit operating system with support for Windows 3.1 applications, a new 32-bit graphics engine, 256-colour XGA and Super Video Graphics Adaptor device drivers, support for high-speed printers and some CD-ROM drives. Multimedia Presentation Manager/2 is included and adds enhanced audio, basic image and software motion video playback capabilities. The Developer's Toolkit for OS/2 2.1 contains bindings, tools, sample programs and documentation, and there is also a Multimedia Presentation Manager Toolkit/2. All are out on June 14. IBM claims that it runs Windows 3.1 standard-mode applications, including multimedia ones, and "major" enhanced-mode applications; not requiring a VxD device driver, with performance comparable to that of native Windows 3.1. Users can start OS/2 and MS-DOS applications from within a Windows application. Performance of Dynamic Data Exchange is improved, and Level 2.5 Adobe Type Manager fonts and TrueType fonts are included. OS/2 2.1 provides support for Windows applications with Object Linking and Embedding capabilities if they run in the same WIN-OS/2 session. It costs \$250, \$200 as an upgrade, and the toolkit is \$140.

BANYAN UP ON RS/6000s

As expected (UX No 436), Banyan Systems Inc has now signed with IBM Corp's Advanced Workstation Division to put its Vines for Unix network operating system up on the RS/6000 family - availability is slated for the first quarter of next year. As with previous iterations, this version is a port of Banyan's Posix-compliant user services and streams-based protocol stack. Until last year the firm Banyan's only offering was a native network operating system built upon a customised version of Unix V. 3.2 for Intel Corp iAPX-86 platforms, which hid Unix from the user. Its first Unix port was to Santa Cruz Operation Inc Unix at the end of last year - Hewlett-Packard Co (fourth quarter), Sun Microsystems Inc (first half of next year) and now IBM RISC versions will follow. Banyan users on these platforms will be able to take full advantage of local Unix tools and utilities. Banyan claims some two million Vines users - Unix is less than 10% of its current business. The company says it is looking at how emerging distributed computing and management technologies might be incorporated into its system, but says it will continue to use its own Remote Procedure Call mechanism for now. Microsoft Corp Windows NT will be supported as a client - Banyan will wait to see how the market shapes up before making a decision to port to the server version.

HP HAS BIGGEST INSTALLATION IN EASTERN EUROPE AT HUNGARIAN STATISTICS OFFICE

Hewlett-Packard Co and the Hungarian Central Statistics Office have formally signed an \$11m contract for the replacement of the Office's IBM Corp 4381 mainframe-based computer centre with an open system. The deal was effectively concluded in November 1992, but had been pending final approval by the European Community, which is financing the project under its PHARE programme. The Statistics Office will be supplied with a three-processor HP 9000/890 server with 512Mb along with Model 867, 847 and 817 dedicated servers, 50Gb of hard disk storage with optical and Digital Audio Tape back-up, and 210 personal computers and workstations. Hewlett-Packard will also supply 19 Series 800 servers to the Statistics Office regional branches, each with 2Gb to 4Gb of disk storage, along with another 270 personal computers and workstations. The systems will run Oracle and use the SAS System, Ami Pro word processor, and SPSS application tools with X25 links to the regional servers. Hewlett-Packard is contracted to have the system up and running in six months. Some 18 companies originally bid for contract, with Compagnie des Machines Bull SA, IBM, ICL Plc, IQSoft and VTSoft losing out in the later stages. HP Hungary general manager Stojanov Rumen confirmed that the site would be the company's largest installation in the country. He also claimed it was the largest open system to be employed at a statistic office in Europe, and announced that the company planned to use it as a reference site for national accounting offices in both East and Western Europe. A project to computerise the national accounting system of Romania is currently under way, though Ruman expressed caution regarding his company's chances of winning that account. The announcement of the deal in the ballroom of the Statistics Office in Budapest was temporarily hijacked by the European Community's ambassador to Hungary, Hans Beck, who used the occasion to dish out European Community tie pins, lecture the local press on the absence of a 'Hungarian Way', and launch a fierce attack on Hungary's decision to retaliate with tit-for-tat measures against an import ban on meat products introduced by the European Community two weeks ago following the discovery of foot and mouth disease in Italy. However Hans Beck also spoke up in defence of the European Community PHARE programme in the face of attacks from local critics, many of whom view it as a means of circulating funds from the European Community to Western economic advisors and consultancy firms, delivering few tangible benefits. Beck claimed that a stage had been reached where more cash could now be devoted to physical rather than intellectual aid and indicated that funding for the computerisation of Hungarian institutions would increase in priority.

INFORMIX STACKS UP ONLINE 6 AND 7

Informix Software Inc has unveiled technical specifications for its next generation multithreaded and databases, OnLine 6.0 and OnLine 7.0, which have been optimised for massively parallel processing systems. OnLine 6.0, which goes into beta test in June, allows complex queries and other transactions to be subdivided across multiple processors. It includes parallel index builds, archive and restore tables, a graphical interface for tape management routines and fault-tolerant back up functions. Key to its framework are a series of "virtual processors" that can be conditioned to handle communication, asynchronous I/O and administration transactions separately. According to Informix, this more than triples performance because different transactions can be carried out on different processors simultaneously. OnLine 6.0 is scheduled to ship by the end of year and will be available on Sun Microsystems Inc, IBM, Hewlett-Packard Co and Sequent Computer Systems Inc platforms. OnLine 7.0 is Informix's full-featured massively parallel processing solution, which its co-developing with Sequent. It is expected to go beta in March next year. At the heart of Version 7 is the parallel database query (PDQ) technology, which enables the database to address simple and complex, CPU intensive and decision support queries. To do this, PDQ structures data so it can be sorted, scanned and joined in parallel, breaking up large complex tasks into queues of smaller transactions that can be processed simultaneously. OnLine 7.0 will be available exclusively for Sequent symmetric multiprocessing machines later next year.

NINE CONTENDERS FOR UI APPLICATION LINKING TECHNOLOGY REQUEST

Unix International has so far logged nine responses to its Application Linking request for technology (UX No 433), including Lotus Development Corp, which is submitting its Link, Embed and Launch to Edit (LEL) technology and Symbotics Inc. The others are all shy about being named. UI says most other submissions come from firms involved with COSE and the Object Management Group. The technology, which is supposed to let users link, transfer and share objects between documents created by different Unix desktop applications and between Unix and Microsoft Corp Windows applications, is intended to become a standard feature of Unix desktop applications by the first half of 1994. According to Mark Doran, UI's technical project manager, ALT won't be a full object-oriented specification and is only intended as a stopgap definition until the OMG delivers object linking and embedding guidelines in two years time. However, the initial ALT specification will possess object-like characteristics to allow for further developments and support for OMG's Object Request Broker Architecture. Application Linking Technology is similar in function to Microsoft Corp's Object Linking and Embedding specification, which allows users to cut and paste objects, text, spreadsheets, sound, video and graphics between different Windows applications. But ALT will be designed to operate across distributed computing environments. The biggest problem facing UI is Windows and Unix interoperability. It is concerned about the lack of Windows technical expertise and the effect this will have on specification schedules. Doran says "We haven't much technical expertise in the area of Windows and we're wary of being too invasive of its code. If we don't get it right then developers will be very reluctant to integrate the technology". Other ALT concerns include developing real-time object linking and embedding techniques and improving the level of data exchange. Full Application Linking Technology proposals will be announced on June 6.

COMPAQ, ORACLE "WORKING ON CLUSTERED SERVERS"

Strategic partnerships with software companies are the order of the day at Compaq Computer Corp as it tries to transform itself into a much more broadly-based systems manufacturer, and according to Computerworld, the latest is with Oracle Corp. The US trade weekly says that Compaq and Oracle are putting together plans to develop clustered personal computer servers designed to run Oracle's Oracle7 Parallel Server Option, with first deliveries possibly as soon as the autumn. The aim is to make clustered 80486- or Pentium-based servers an attractive alternative to systems such as the Digital Equipment Corp VAXcluster. The concept of clustering would increase the input-output capability compared with monolithic servers, and would also enable users to consolidate proliferating local network servers, thus regaining some control.

NO SIGNIFICANT ALPHA REVENUES UNTIL 1994

Digital Equipment Corp now says it does not expect any "significant" revenues from its new Alpha-based systems until the 1994 financial year which starts in July. The rather disconcerting message comes from Bradley Allen, director of investor relations, in London last week to brief investors about the company's efforts to return to profitability through restructuring, cost-cutting and changes in technology. He declined to make projections about fourth quarter earnings but noted that the US investment community "expects us to be profitable in the fourth quarter." He also said that customers were enthusiastic about the new Alpha-based systems, adding that five major database vendors had committed to supporting the RISC chip. The company also reports continuing strong sales of its Mips RISC-based systems in Europe and Asia, even though it is moving its product lines over to the Alpha AXP RISC.

HEWLETT-PACKARD EDGES GINGERLY TOWARDS UNIX SVR4 COMPLIANCE...

By William Fellows

Hewlett-Packard Co, the company which has an evangelizing belief that COSE is the key to its future Unix strategy, is now confident enough to admit that it is unlikely to incorporate any of the Open Software Foundation's current operating system technology into its own HP-UX Unix system software. Future microkernel systems excepted - HP hasn't decided which flavour of that particular technology it will adopt - the firm says that it, like IBM Corp (both OSF co-founders) "has no plans to move to OSF/1." Moreover, the firm has indicated an intent to move towards greater (if not full) compliance with the rival Unix SVR4 kernel from Unix System Labs, and adopt the System V Interface Definition version 3 in HP-UX 10. (It's worth remembering that Unix System Labs has maintained from the beginning that COSE would eventually result in an agreement on the kernel, namely SVR4 or its descendent (UX No 430)). Whether HP will actually licence SVR4 or a subsequent implementation from USL remains to be seen, but its intent is to step up from the current Unix V.3.2, SVID 2-derived HP-UX version 9.03 operating system - which includes multithreading support from AT&T Unix - to a COSE-compliant, USL Unix-based system during the first half of next year is clear. It thinks it would still be able to offer OSF application compliance via the COSE specifications it'll implement. HP-UX 10.0 had been scheduled for release December, but that was before COSE came along and re-wrote the rules of engagement. HP refuses to be drawn into a debate about the kernel, insisting "it isn't the issue." HP expects COSE to deliver a measure of source code compatibility for applications across various Unix architectures in its initial guise - a binary compatible environment allowing applications to run on multiple platforms is seen as the net result of future COSE specifications.

...MULTIPROCESSING ON THE DESKTOP IS HP'S "BALANCING ACT"

Hewlett-Packard Co denies there is any pressure on it to deliver multiprocessing workstations despite the hype surrounding Sun Microsystems Inc's latest salvo of desktops and servers which use multiple SuperSparc CPUs. It says Sun needs multiprocessing desktop solutions because the Mountain View, California-based company can't get competitive performance from uniprocessor implementations of the Texas Instruments Inc SuperSparc RISC, unlike HP's own 9000 series 700 top-end uniprocessor workstations which use the 99MHz PA RISC 7100. Moreover, HP is not yet convinced that the market is ready for such advanced technologies on the desktop. In its experience most workstations are employed as single-user (albeit multitasking) solutions and in any case - as Sun is only too aware (UX No 436) - there is very little application software around optimised for multiprocessing architectures. HP does offer multiprocessing on the 9000 series 800 servers and although it already has multiprocessing desktops up and running in the labs, the company says it is still in the process of deciding whether to bring these to market sooner or later. The company is cutting its multiprocessing teeth on this technology and the parallelising software it has developed for the clustering solutions it now offers. A desktop multiprocessing campaign, however, will require much greater resources, the company believes. "Its a balancing act," according to HP's UK workstation business manager, Peggy Heppelmann. She believes HP has now carved itself enough of a breathing space to be able to consider various options at both ends of the market. If multiprocessing desktops are on the agenda, and all indications are that they will appear later - ie next year - rather than sooner, then they'll definitely use a higher performance PA RISC 7100 part (currently at 99MHz) that HP will first introduce in a new uniprocessor system. Multiprocessors should perform at least twice as fast as the current top-end Model 755 workstation which goes to 150 SPECfp92 and 80 SPECin92. HP says its current HP-UX 9.0.3 implementation already incorporates multithreading technology from Unix V.3.2, although that's not a full multiprocessing versions - like Unix SVR4 MP - that it would probably require.

...HUMMINGBIRD TO FLY "BY JANUARY" WITH MAC-LIKE ENVIRONMENT

Meanwhile, HP also has its entry-level, low-cost PA RISC 7100LC CPU on the burner. The part was expected to have materialised in a low-end 50Mhz to 70Mhz Hummingbird machine that had been talked up for the end of this quarter (UX No 414). Heppelmann says they will now appear anytime between September and next January, claiming HP's existing £3,877, low-end 715/33 desktop remains very competitive with other entry-level systems, including Sun's £3,655 Tsunami-based SparcClassic and IBM Corp's £3,664 RS/6000 220W. As well as milking the 715/33 for all its worth, HP says it remains hard at work on developing what it says will be an Apple Mac-like Unix environment for the thing, in addition to the on-board multimedia hardware it is supposed to incorporate. The 7100LC Hummingbird CPU has been configured for both big- and little-endian application software, encouraging speculation that is being styled to accommodate Microsoft Corp Windows NT - to which HP has not yet committed on its PA RISC lines - as well as Unix. The mass market box is expected to come in well below the \$5,000 - £4,000 - mark. HP says it is preparing the appropriate channels to move the volume box through, which it says must be in place before the thing is launched.

NEC HAS LOW-POWER VR4200 R-SERIES RISC

Out to do a bit of Pentium party-pooping last week were NEC Corp and MIPS Technologies Inc, with launch of the low-power 64-bit VR4200 RISC, which dissipates less than 1.5W, making it suitable for battery-powered portables capable of running Windows NT. NEC said it plans volume production of about 10,000 units a month in the spring of 1994, increasing to about 30,000 a month by early 1995. Samples due late this year will be \$72.

T5 WILL BE R5000

Meanwhile, it turns out that Mips Technologies Inc's next generation T5 iteration of the R series RISC is what will be released next year as the R5000, not the R10000 as the company had previously indicated (UX No 377). Mips has rallied all of its fabrication licensees to help with development of the T5, which, at least in its initial guise, is touted as a general purpose CPU for workstations and servers that'll be out next year (UX No 436). In addition to the low-power VR4200 - see above - Mips and its Silicon Graphics Inc parent have already released machine based upon on a high-end TFP variant of the R4000 optimised for floating point performance (UX No 421). Indeed, Silicon Graphics is understood to have added an instruction to the Mips architecture for TFP, allowing multiplication and addition functions to be performed in a single batch rather than as separate operations, speeding floating point throughput.

CDC WORKS WITH GRAU ON UNIX ROBOT LIBRARY

Control Data Systems Inc is working with Grau Automation GmbH to develop a Unix version of its Automatic Tape Library, Abba - Abba is also marketed by Hitachi Data Systems Ltd. Although Abba is not restricted to any one medium, covering magnetic tape, VHS cassettes, optical disks and streamers, up till now, it has only been used in IBM Corp MVS mainframe and Siemens Nixdorf Informationssysteme AG BS2000 environments. However, German and US software developers are currently working together to enable both Abba/E and newly-released Abba/2 to operate in Unix environments. Control Data is using Openvision's - formerly Discos - Unitree distributed hierarchical storage management software and its own Aria Volume Manager, which controls the media and drives separately from Unitree. According to Control Data, this should give customers the chance to use the most suitable medium for their requirements. The first Abba/E systems running under Unitree are expected by the fourth quarter of 1993.

SUNSOLUTIONS OPENS UK ARM, HAS SHOWME 1.1

SunSolutions, Sun Microsystems Inc's desktop computer conferencing unit has launched version 1.1 of its ShowMe white board system for Sparc systems. The shared conference board allows disparate users to simultaneously view and annotate documents and drawings over TCP/IP networks. A ten user licence is \$1,100, though free single user licences are being thrown in with every Sparcstation LX or SparcClassic bought before the end of June. SunSolutions has also opened its first office outside the US - Andrew Rattigan is to head a North European operation based at Sun's UK headquarters in Bagshot, Surrey. Rattigan will be responsible for ShowMe in Ireland, Sweden, Norway, Finland, Denmark, Belgium, Luxembourg and the Netherlands: he now won't be heading over to Moscow to work at Sun's long-planned Commonwealth of Independent States operation (UX No 424). SunSolutions has some other workgroup conferencing packages in the works which it will reveal in a couple of months. The company plans Solaris x86, Windows and Windows NT ports of these and the ShowMe system, versions for other RISC workstations thereafter. It's currently recruiting a Paris-based Central European manager who'll be responsible for French, German, Italian, Spanish and other markets. SunSolutions claims 900 ShowMe licensees across Europe.

EUROPEAN ROUNDUP

Sources say **Unify Corp** is trying to offset bad end of year results by cutting jobs in the UK and Germany. Six people have been made redundant at its European Headquarters in Egham, Surrey and two sales staff have gone from its office in Munich already.

According to one informed source, **Microsoft Corp** partner **Insignia Solutions Inc** has not done a stroke of work on its "WABI-like" SoftPC native Windows-on-Unix solution (UX No 434), because it's been too busy trying to fix NT.

Ten month old start up (UX No 433), **OpenVision Inc**, Pleasanton, California, is spreading its wings already and plans to open a UK office in September to market OpenV*OPSS, its Unix-based security systems management software.

I/O board manufacturer, **Digiboard Inc** has introduced a new Unix-based 2Port intelligent controller that supports SCO Xenix/Unix, USL SVR4, Univel Inc UnixWare and Microsoft Corp Windows NT. Its priced at £235 and UK distributors include Ingram Micro Ltd, Milton Keynes, and InterQuad Ltd, Slough. +1 49 2203 81083.

London-based **Andersen Consulting Ltd** has now released Foundation for Cooperative Processing 2.0, its client/server application development tool. New modules include Foundation Design, a design and analysis tool; Foundation Construction, a code generator for target environments and Foundation Production, a Unix communications module.

Ing C Olivetti & Co SpA has now sold a block of 5.6% of its ordinary shares to **Digital Equipment Corp**, bringing DEC's holding in Olivetti to almost 10% and fulfilling the agreement concluded last year, which gives the Italian privileged access to DEC's Alpha RISC. DEC paid well over the odds for the shares - Olivetti says that 28.53m shares were sold to DEC at 4,547.4 lire per share, which compared with a lowly 1,340 lire price in the market at the time of the transaction.

PeopleSoft Inc, Walnut Creek, California, plans to open a UK operation over the next couple coming months.

UK systems integrator turned software developer **Protocol Solutions Ltd**, Fareham, Hampshire, has set up Protocol Graphics Ltd to market ProLink, its own MS-DOS-to-Unix emulation product. According to Protocol Solutions, ProLink enables users to interoperate between MS-DOS and Unix operating environments, providing multiple window access to Unix, customised graphical frontends, document image processing and distributed fax software. Protocol Graphics expects to target health and local government markets. Its scheduled for release in June. No prices have been set. +44 489 885950.

Logica Plc is letting the Callserver Unix-based speech and call processing activities developed at its Cambridge research lab go in a management buyout for £187,000 and up to £1.3m over the next five years. The new **Vocalis Ltd** starts life with 13 employees.

It's thought **Sun Microsystems Inc's** long-awaited **Commonwealth of Independent States (CIS)** wholly-owned subsidiary based in Moscow will be formally announced at the beginning of the company's financial year in August (UX No 424): headed by Robert Hall, the four-strong team is awaiting phone lines and the refurbishment of offices it has leased in the Russian capital - they're working out of their own apartments at the moment.

Hitachi Ltd is to plug SoftBench, **Hewlett-Packard Co's** CASE environment, into the next version of its ObjectIQ object development environment which runs on HP workstations (UX No 359). **Hitachi Europe** hopes the move will double its 10 sales of the system over the coming year - it recently won Belgium's Bank Krediet as a customer in a \$4.2m deal.

Santa Clara, California-based **Mercury Interactive Corp** has opened a UK subsidiary in London: **Mercury International UK Ltd** will market the firm's XRunner, an application test suite. +44 71 329 8652.

Xylogics Inc has opened a new office in Munich, Germany, that'll serve the central European German speaking countries, including Austria and Switzerland.

The disappointing turnout of visitors to London's Solutions for Workstations Show earlier this month has led to redundancies at show organiser **EMAP Exhibitions**, including show manager, John Howe: **Sun Microsystems Inc** has already declined a space at next year's event - if it happens at all.

The **Ford Motor Company**, which two years ago chose the Motorola 88000 as the RISC processor for its electronic engine control modules in preference to **Intel Corp** (UX No 338), has, as predicted (UX No 374), switched its allegiance to **Motorola/IBM** Power PC architecture. Ford says the electronics content in automobiles will double over the next decade, and that it is working with Motorola on future generations of PowerPC microcontrollers, including embedded controllers for engine management. Next year it will launch EEC-V, its fifth-generation "powertrain" control system. The move is bad news for the future of the 88000, which saw the deal as the guarantee of its future.

X-terminal maker **Tandbeg Data Display** of Norway and peripherals-maker **MacroTek GmbH** of Dortmund, Germany, are also endorsing the PowerPC.

Intersel Inc, a joint venture of response fulfillment house **Response Technology** and market tester **Strathmore Group**, is getting out of the ground in Waltham, Massachusetts. The 26-person start-up claims most computer companies aren't following up on their leads properly, blowing wads of money in the process. Intersel, which is targeting software

Ingres Computer Systems Inc's Ingres Corp has integrated **Unix System Labs'** Tuxedo transaction processing monitor in with its applications development tool, Windows4GL. The work, done in conjunction with ICL, makes Ingres/Windows4GL-TP compliant with both Tuxedo and the X/Open XATMI and TX transaction processing standards. UK prices start from £3,000 for a typical development licence, although existing Windows4GL users can upgrade for 400.

Stratus Computer Inc has opened a **Unix Porting and Technical Center** in Dublin, Ireland - it will offer customers and software developers the facilities and personnel to convert their applications to run under the Stratus FTX fault-tolerant Unix operating system.

UK firm **Riverside Machines Ltd**, Cambridge, has an Intel Corp i860XR-based Sbus accelerator card for Sun Sparcstations and compatibles - 25MHz, 33MHz and 40MHz versions with either 2Mb or 8Mb memory are priced at from £2,500. +44 223 321 083.

UK, London-based **Communic8 Ltd** has introduced PKZIP 2.0, a high speed file compression and decompression package for Unix. Developer kits are available now for Santa Cruz Operation Inc Unix, IBM AIX, Interactive Unix, Sunsoft Inc Solaris and Hewlett-Packard Co HP-UX. +44 81 878 0066.

Yacc consultancy, Leeds, is to distribute the **Free Software Foundation's** GNU source code CD-ROM in the UK: the compact disk includes Emacs - the extensible, customisable real-time display editor; GCC - the GNU C compiler; G++ - GNU C++ compiler; GNU utilities, MIT X Window X11R5 and MIT Scheme LISP dialect. There are no pre-compiled programs on the CD except for some MS-DOS packages. The CD costs £266 for commercial organisations, £66 for individuals. +44 532 871414.

Bagshot, Surrey-based consultancy **OutSource International Ltd** is to establish and manage a network of UK resellers for Transputer-based massively parallel database systems builder **White Cross Systems Ltd**: the aim is to generate some £20m in revenues for White Cross over the next three years; OutSource is recruiting UK resellers through its ChannelSource Europe arm, and they will target medium sized customers in the finance, retail and insurance sectors; European White Cross channels in France, Germany, Italy and Switzerland are set to follow.

ACT Logsys, the systems integration arm of **ACT Group plc**, has appointed John Totman - formerly Director of European Programmes at X/Open - to head up open systems development in its local government division, DSS Information Technology Services Agency.

Silicon Graphics Inc's Iris Explorer 2.0 graphics application builder is now up on Sun Microsystems Inc workstations - versions for Cray, DEC, HP, IBM, machines will follow. It's available from UK, Oxford-based **Numerical Algorithms Group**, which is co-ordinating the porting work - prices start at \$5,750.

Data Sciences UK Ltd, Farnborough, Hampshire, has introduced Murco, a stock-forecasting and inventory management tool for Unix. +44 252 544321.

Hoskyns Group Plc, London, is to distribute New Zealand firm Pinnacle Software Ltd's a financial and manufacturing software tools in the UK.

TADPOLE SWINGS TO PROFIT, UNDERPINS SHARES WITH PLANS FOR ADR OFFERING

Following Tadpole Technology Plc's flotation on the UK Stock Exchange last December and due to interest shown in its shares in the US, the Cambridge-based company intends to appoint US financial advisors with a view to obtaining a New York listing for its shares in American Depository Receipt form. Tadpole's US subsidiary generates approximately 85% of its turnover, while the rest comes from Europe, including the UK. The UK handles direct sales for most of Europe, excluding France, where Tadpole has another smaller subsidiary. And the operations in France support and work with the company's reseller community, which bring in the bulk of its European revenues. For the first six months of its financial year, Tadpole turned round from losses of £1.4m last time to pre-tax profits of £26,800 this. Turnover rose 93.5% to £8.9m, and the company's order book to March 31 stood at £5.5m. Deputy group chief executive, J A Woan attributed its success to careful cost control, strong sales of its Sparcbook notebook computer, and a healthy OEM business. In fact, Sparcbook sales were so good, Woan said, that OEM revenues have fallen as a percentage of group total to 37% in 1993 from 48% in 1992. Tadpole sells board-level products OEM to the likes of General Electric Co Inc and Polaroid Corp. In an effort to expand this business further, it has just signed a joint marketing agreement with the Sparc Technology Business Unit of Sun Microsystems Computer Corp, which sells Sparc technology and expertise to third parties, but will focus on higher volume, standard board designs, while marketing Tadpole's skills in complex custom board designs. Still, the vast majority of Tadpole's profits come from its systems business, including Sparcbook product, portable computers, and fees from licensing deals. And chief executive George Grey is confident that current growth levels can be maintained, "All the group's development projects are on track, including the notebook workstation being undertaken for IBM Corp. The current indications for those projects due to bring revenues in the next financial year enable us to look forward to 1994 with considerable optimism."

JAMES RIVER PLANS MP VERSION OF ESIX UNIX
Minneapolis, Minnesota-based James River Group Inc, the new owner of Everex Systems Inc's Esix desktop Unix, will release a new version of the operating system configured for multiprocessing in September. The firm, which acquired Esix Systems Inc in January after Everex filed for Chapter 11 protection (UX No 421), is also setting up offices and distribution channels in Europe. According to James River, Esix 2.0 is a character-based implementation of Unix System Laboratories SVR 4.2 MP aimed predominately at small businesses. It'll include support for Novell Inc's IPX protocol and James River's own personal computer-to-Unix communication software ICE 10+ and ICE TCP, which lets users access Esix from MS-DOS personal computers. An add-on graphical user interface is available. The firm has also signed its first European distributor for Esix, UK firm Custom Business Systems Ltd, London, and will cut other deals in France, Germany, Scandinavia, Italy and Greece. Two support and maintenance offices will be up and running on the continent by the end of year. +1 612 339 2521 or +44 71 323 2297.

NIPPON DEC TEAMS WITH ASCII

Nippon Digital Equipment Corp has teamed with the Japan distributor for Informix Software Inc, ASCII Corp, to sell Informix relational database software and the Wingz spreadsheet on its Ultrix and Alpha systems. New versions Informix 5.0 and Wingz 1.2J are to be converted for the Alpha AXP systems and will be announced this summer. Sales and technical support for these two products will be done by Nippon DEC, which hopes to make 200 sales of each product in the first year.

ON TO \$20,000m AS HEWLETT-PACKARD CHEERS WALL STREET WITH SECOND QUARTER

Despite storming figures that saw the company report its first \$5,000m quarter, and just miss its first \$10,000m half, putting it on track for close to \$20,000m this year, chief executive Lewis Platt is not cheering his head off. He says he believes "upward pressure on the cost of sales is likely to continue" for the rest of the year and that the company faces a "very mixed and uncertain economic environment," intense competition and rapid market changes. Total orders for the second quarter, to April 30, were 28.5% up at \$5,370m; orders for computer products rose 32.9% to \$4,120m, making it clear that the company, where computers accounted for less than half of the business only a few years back, is continuing progressively to become more and more a pure computer company. The rapid pace of growth remains crucially important, because cost of goods sold, as a percentage of net revenue, was 58.8% in the second quarter, compared with 53.6% a year ago, and put this down to competitive pricing pressures, manufacturing ramp-ups for new products, and an "ongoing shift in revenue mix" to products with higher cost of sales as a percentage of revenue. Total employment during the quarter rose 700, but operating expenses went in the opposite direction from cost of sales, 30.3% of revenues compared with 32.5% in the year-ago quarter, as the company continued the remorseless cost-cutting drive. Still, the \$1.38 a share for the quarter was a pleasant surprise for most analysts, whose estimates ranged from \$1.10 a share to \$1.35. Second quarter net profits were up 7.4% at \$347.0m on turnover that rose 21.8% at \$5,096m. Mid-term net profit rose 107% to \$608.0m on turnover that rose 20.2% at \$9,669m. HP says that in the UK, growth in orders was a 39%, and that orders for Unix systems are more than double this time last year. Exports from the UK are up 16%, 80% of everything sold is now new business, and all new business is on the Unix side - as price-performance improves two-fold every year, it is selling four times as many Unix boxes each year. HP may be doing very well with its Unix computers (it is), but its out-and-out winner is of course the printer business: printer orders in the quarter were up a phenomenal 33% on the 1992 second quarter at \$4,100m.

YOKOGAWA HEWLETT-PACKARD WINS MITSUI TO MARKET OF SOFTBENCH

The traditional Japanese trading companies constantly flirt with the computer industry, and trading giant Mitsui & Co has signed up with Yokogawa Hewlett-Packard Co to market Hewlett-Packard Co's HP SoftBench software engineering system for integrating development tools. With the agreement Mitsui becomes the largest distributor of SoftBench in Japan. Mitsui already sells the language development environment from Xerox Corp spin-out ParcPlace Systems Inc. Mitsui will sell and support SoftBench in cooperation with OGIS Systems Inc, an information systems subsidiary of Osaka Gas Co. The price in Japan for SoftBench is \$5,400, and the two companies hope to be able to sell over 2,000 copies a year.

...AS FUJITSU LICENSES SOFTBENCH

All roads seem to lead to Hewlett-Packard Co these days, and the company has now also won Fujitsu Ltd as a licensee for SoftBench - the first licence on the thing in Japan. Fujitsu will create software engineering products based on the SoftBench Framework for use on its own systems. Other SoftBench licensees are IBM Corp, Informix Software Inc, Control Data Systems Inc and Objectivity Inc, Siemens Nixdorf Informationssysteme AG and the Institute of Information Industry in Taiwan.

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Mercury Interactive Corp, Santa Clara, California, has introduced a **Microsoft Corp** Windows NT version of its application testing environment, **TestRunner**: prices start at \$3,000 per seat. +1 408 987 0117.

MapInfo Inc, Troy, New York, is shipping its **MapBasic Development Environment** for Unix calling it the first programming language for GUI systems allowing corporate developers to customise desktop mapping applications for a given industry or department. It also has its mapping application, **MapInfo 2.0** up on Sun and HP platforms and supporting remote procedure call (RPC) operations. **MapInfo** is currently priced at \$1,800; \$1,500 for each additional site license. The development environment is \$1,600. +1 518 274 6000

The **Usenix Summer 1993 Technical Conference** is scheduled for June 21-25 in Cincinnati, Ohio discussing areas such as the Windows NT architecture.

Objectivity Inc has integrated its **Objectivity/DB** database with **Persistence Software Inc's Persistence** application development environment, claiming it allows developers to write object-oriented applications that work with existing relational and object databases.

UnixWorld claims that an **IBM Corp** project code named **Renoir** will produce a CMOS 390-on-a-chip that the company will start shipping as a cheap parallel processing database computer by the end of the year. It's supposed to gang as many as 100 Renoirs together and come with its own parallel versions of IMS, DB2, CICS and MVS. Initially it'll be connected to existing mainframes. Supposedly it'll run legacy software without recompile though that would improve performance.

Hewlett-Packard Co has named Glenn Osaka general manager of its **Cooperative Computing Systems Division**, its integrated client/server business systems, replacing Carol Mills, now general manager of HP's **General Systems Division**. Osaka remains general manager of the company's **Commercial Systems Division**, a separate business unit.

Sun Microsystems Inc promises new graphics and image processing subsystems that'll take advantage of its new-found multiprocessing prowess. Sun used to say "the network is the computer" - now it thinks "the network is the business." The organisation, administration and result recording of the 1994 World Cup, to be held in the US, is being handled by Sun Sparcserver 1000s.

Using the **Public Windows Interface** self-certification kits promised next month, independent software vendors which find their application(s) don't run are being asked to look at the source, find the undocumented Windows calls being made and give them to Sun which will add them to the **PWI** specification.

Lucid Inc, Menlo Park, California, has appointed David Banks, president and chief executive officer of **Versant Object Technology Inc**, to its board of directors. It's also hired John DeArmon as director of strategic accounts and Simon Clephan as director of worldwide sales.

Denver, Colorado-based **Unidata Inc** has hired Allan Snell, former director of Intel software marketing at **SunSoft Inc**, as vice president of marketing.

Santa Cruz Operation Inc's cut-down version of **Open Desktop, ODT 3.0 Lite (UX No 426)**, is priced at £500 - \$700 - on CD-ROM, £700 - \$900 - on tape or disks.

As expected (UX No 423), **Pyramid Technology Corp** has started shipping **Valence Cluster**, its clustered configuration of **MIServer** and **ES Server** machines supporting Oracle Corp's **Parallel database server Oracle7**.

Sun Microsystems Inc's SunPics printing and imaging planet has introduced the firm's first colour printer, the **PostScript-compatible NeWSprinter CL+**, for use with Sparc systems: users can adjust colours and tones on-screen with **SunPic's BalanceTool** software, which will be integrated with the **Eastman Kodak Co ColorSense** colour management system which Sun is integrating into future versions of **Solaris**. The four-colour, 360dpi ink jet system includes **NeWSprint 2.5** printing software and runs with **Solaris 2.x** - prices start at \$4,000.

Samsung Software America Inc has spun out its **Replix** fax software solution into a separate business under **Dr Hikyu Lee**, former president and chief executive officer of **SAA. SoftLinx Inc**, Westford, Massachusetts, is being bankrolled by the **Samsung Group** and will focus on developing fax, e-mail and voice solutions, including **Replix**. **SoftLinx** will support **Replix** customers - **SSA's** non-**Replix** related activities will be folded into other **Samsung US** divisions. Near-term plans include **Replix 2.0**, **PC LAN**, **Windows client** and **SunSoft Solaris** implementations. +1 508 392 0001.

PeopleSoft Inc is going for a secondary public offering of 1.55m shares for general corporate purposes including working capital. Most of the shares are coming from stockholders.

Unix System Laboratories Inc is reportedly getting ready to do something serious with the **Chorus Systemes SA** microkernel.

ProActive Software Inc has named **Pat Marriott** vice president of market. She had been director of market planning at **Adobe Systems Inc**.

Minnesota-based **Norwest Venture Capital** has opened a new California operation in **Menlo Park** under general partner **George Still**. Its investment typically range from \$500,000 to \$5m. It's interested in software, medical, retail and telecoms and has done **PeopleSoft**, **Forte Software**, **Quarterdeck** and **Teradata**. +1 415 854-6366

In the wake of falling attendance and other emerging Unix shows, **Uniforum** has switched its show management from **Pemco** to **IDG World Expo for Uniforum '94** scheduled for March 23-25 at the **Moscone Center** in **San Francisco**. **IDG World Expo**, part of the rambling **Pat MacGovern** empire, currently produces **Object World**, **Sun World**, **MacWorld** and **Windows World** international series.

Racing to catch up with the industry's evolution, **Comdex' owner Interface Group** is launching **Enterprise Computing Exposition and Conference** set for **Chicago's McCormick Place** July 26-28 next year. Its supposed to be focused on the seamless integration of applications, data, user interfaces and other computing resources among heterogeneous systems. God willing, the industry might deliver on the promise.

Apple Computer Inc wants to be perfectly clear. It's new-found strategy and alliances will make it a server player, not just a client. Watch this space. And people are making much of the fact the **Apple's John Sculley** said he expects to sell a million **PowerPC Macs** next year. Market researchers focused on the firm figure it's more likely a half a million.

Microsoft Corp is developing tools to enable C and C++ developers building **Windows-based** applications to also target the **Apple Macintosh**, allowing a common base of source code between the two systems. The tools will provide developers the flexibility to also access APIs specific to **Apple's System 7** in order to take advantage of unique **System 7** features. The toolset will include a layer that implements **Windows APIs** on the **System 7** operating system.

Siemens Nixdorf Informationssysteme AG will show off its **Unix SVR4-based DCE** reference port this week at the **Open Software Foundation's Challenge '93** meet in **Boston**. This is the stuff **Unix System Labs** is distributing. Meanwhile, **SNI**, armed with its new point-of-sale alliance with **Sun (UX No 436)**, has picked up a \$10m contract with **US supermarket chain Kash n' Karry Food Stores**.

Remember we said **Sun Microsystems Inc** would likely trim staff? (UX No 435) Well, it's come up with a variety of severance packages it's offering people. One of them reportedly calls for two months severance plus a month for every year worked. Although you have to be offered the deal, **Sun** could still lose some valuable people. It apparently wants to cut a thousand from its rolls which stood at 13,381 at the end of March.

COSE has given over the organisation and running of the **COSE Developers Conference**, supposed to be in **October**, to **Uniforum**, leaving it to decide when and where to have it. Theoretically, it could be held at the "Unix Perspectives: Conference for Enterprise Solutions" get-together that **Unix Systems Labs** has in train for early **November (UX 435)**. We are now supposed to understand **Enterprise Solutions** less as a show than as a high-level executive meeting that might pass for a meeting of the **Unix War College**.

This is the week our sister publication, the "Unigram-for-NT" goes live. They've changed its name from the whimsical **BillyGram** of the beta to a more pointed **Client Server NEWS**. They say that aside from getting a few noses out of joint at **Microsoft Corp**, enough people felt **BillyGram** was a silly name and would prevent it from being taken seriously. The name will live on as a department head. Annual subscriptions are \$595 in the US; £395 in the UK. Call +1 516 759-7025 or +44 71 867 9880. It'll make a great observation post.

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AMDAHL, ICL, FUJITSU POOL SPARC UNIX RESOURCES...

By next week, Fujitsu Ltd and its ICL Plc and Amdahl Corp affiliates should have announced details of a strategic technology alliance, first fruits of which will be the creation of yet another common Unix application environment, to be supported across their respective (yet-to-be-announced in Amdahl's case) Sparc RISC-based systems. The plan is to combine elements of their current Unix offerings - ICL's DRS/NX Server, Fujitsu's UPX implementations and Amdahl's UTS mainframe Unix - and cross-license key value-added products, in a bid to win customers for a new breed of mid-range and high-end Sparc servers aimed at scientific and commercial Unix customers. Binary Unix compatibility across their respective systems - plus support for all SparcWare applications - will, the three say, offer independent software vendors a rich target environment. Amdahl hopes its part of the exercise will do for the top-end of the Unix market what Novell Inc and Unix System Laboratories Inc are doing for low-end and desktop Unix. The chief executives of the three firms have been discussing the plan for five months and have now handed over the task of implementing the grand design to their operating systems managers. The plan should at once cut costs and overlapping and research and development efforts, but ICL (80% owned by Fujitsu) and Amdahl (in which Fujitsu has a 42% stake) stress that the impetus is "not Fujitsu banging heads together." Other cross-licensing and manufacturing deals are expected to emerge from the new-found synergy in all product areas, the three have hinted - see below. Fujitsu's other Sparc system-building concern, the non-computer computer company, HaL Computer Systems Inc, was involved in the discussions but will play no part in the initial effort as it focused exclusively on 64-bit Sparc development. Under this latest Unix axis, Amdahl will offer Unix System V.4.1 ES/MP, XPG4 and Sparc Compliance Definition 2.1 compatibility, Sun Microsystems Inc's Open Network Computing system, Open Software Foundation Distributed Computing Environment, Unix Labs's Tuxedo transaction processing monitor, TCP/IP, SNA support, a new measurement package for getting system information into system management environments, a graphical performance monitor, support for various graphical user interfaces and Storage Technology Corp tape silos, UniTree file manager and Network System Corp's Network Access system - much already featured in its UTS Unix. ICL and Fujitsu will create their own variants, adding lower-end features such as local area networking. No time-scales for introduction are set, but Amdahl does not plan an integrated application environment until its two lines of long-awaited Sparc machines are out - they're now set for year-end and early next year respectively, see below. The environment won't be offered on Amdahl's IBM Corp 3090-compatible 5995M mainframes, although applications will be portable via UTS, which runs in a partition, and its Huron application development environment, which it supports across all its systems. UTS 4.1 is due next month, UTS 4.2 will coincide with release of Amdahl's Sparc systems - the common Unix application environment will roll into UTS releases thereafter.

...PLAN COMMON PERIPHERAL STRATEGY...

With both Fujitsu and Amdahl losing money, the pressure is on to reduce their cost bases. The new agreement increases the likelihood of the cross licensing of hardware products, which may see ICL selling Amdahl hardware and Sparc systems being traded between the companies, something ICL and Fujitsu already do. Furthermore, peripherals used by each are likely to be drawn together into a single, compatible product line and Fujitsu is expected to take over more responsibility for the development of ICL and Amdahl's mainframe CPU architectures. "In some areas we have complimentary products and some overlap," explained Amdahl chief executive officer Joe Zemke. He expects the effort to eliminate duplicated research and development efforts and allow resources to be transferred to the development of middleware technologies. For its part, ICL hopes the initiative will speed up the delivery of system management tools and other components for mission critical Unix applications. ICL's current DRS/NX version 7 is ICL's multiprocessing implementation of USL's uniprocessor Unix SVR4.2. When USL delivers SVR4.2 MP, that'll become DRS/NX 8 or 9.

...AS AMDAHL READIES TWO SPARC SERVER LINES

Amdahl is now expected to deliver two lines of multiprocessing Sparc systems which it will announce later this year. The company isn't waiting for the 64-bit Sparc parts it originally intended to use but, like its ICL cousin, is expected to use existing superscalar Sparc CPUs from Texas Instruments Inc and the Ross Technology Inc unit that Fujitsu is acquiring from Cypress Semiconductor Corp (UX No 436). This year will see the launch of a Workgroup Server, described by the company as a platform for distributed computing with (in Amdahl's terms) mid-range performance. The high-end Enterprise Server will be pitched as a large mission critical system with mainframe performance - 200 mainframe MIPS - and fault-tolerant characteristics or RAS - recovery, availability and service - in the IBMspeak Amdahl uses. It will support IBM 3090 peripherals, including disks and tape drives, plus SCSI and FDDI. The Sparc machines are expected to use up to 20 CPUs each and will start life as \$150,000 to \$200,000 boxes. They will run UTS Unix for Sparc, binary compatible, Amdahl says, with its 5995M mainframe series Unix. The 5995 systems will never use Sparc, the firm says. Amdahl claims 60 existing customers of UTS on 5995s, and says it hasn't lost a single customer to downsizing - strange given that it is talking up its Sparc systems as rightsizing tools. Amdahl's RISC project date back to 1990 when it inherited technology from the failed Key Computer Laboratories Inc (UX No 309).

QUESTION MARK OVER UI'S FUTURE AFTER NEW LAYOFFS

In the last two months, Unix International has quietly suffered two bouts of layoffs and fortuitous unreplaced departures that have decimated its staff and effectively shut down much of its offshore operation. UI describes it as "downsizing in the face of recession." UI reportedly told staff laid off in the last two weeks that it was short of funds, attributing the situation to an accounting error. Sources close to the events say UI's days are numbered. The job it was created to do - establish Unix SVR4 - was completed and done successfully some time ago. UI admits its lost the industry initiative it once appeared to have once it went beyond Unix kernel issues. It says, for instance, that it "should have done what COSE did a long time ago." In any case, many members have their own plans for areas beyond the kernel which do not fit in with what UI wants to do. People say it should now fold its tents and steal away. Support among its members is reportedly waning except perhaps for die-hards such as NCR Corp, Fujitsu Ltd and ICL Plc. But even Fujitsu is said to be more interested in Microsoft Corp's Windows NT and the new Unix axis it is forging with its affiliates - see opposite. ICL too, is keen to see a shift of emphasis away from SVR4 to Unix in general. Moreover, Unix System Labs and Novell Inc are believed to be antagonistic and resentful of UI if for no other reason than it stands between them and their OEM customers. In the last few weeks UI has lost Yumio Imamura, general manager of Asia Pacific in Tokyo, Roger Fraumann, director of Australia/New Zealand in Sydney, Lane Weggeland, vice president of business operations, Tony D'Annunzio, vice president of technology, Jack Bissel, technical projects manager, Steve Payne, director of communications, Dave Whitson, marketing manager, Andy Freeman, recruiting, Rhoda Ames, executive assistant and Diane Varga, product sales. Payne, Whitson and Varga are believed to have been responsible for much of the consortium's recent sales of its catalogue and anti-NT white paper, a source of revenue. The departures, which UI has attempted to minimise and ascribe to a collection of reasons, leave in place president Peter Cunningham, vice president of marketing David Sandel, director of marketing Barbara Walker, director of desktop marketing Jesse Bornfreund, Colin Fulton, now running both the Pacific Basin and Asia Pacific geographies out of Singapore, newcomer Wilson Haddock, reportedly responsible for a downsizing study, a new accountant and some support staff. The latest cuts were reportedly made without severance or accrued vacation. Scott Hansen continues at UI Europe, his team now trimmed to six.

DEC DISTRIBUTES JSB's MULTIVIEW MASCOT

Digital Equipment Corp is now distributing JSB Computer Systems Ltd's MultiView Mascot with its DECadvantage application environment. This will enable users to run multiple applications simultaneously, switch rapidly between applications, and copy and paste information from one application to another without needing to adapt them. Macclesfield, Cheshire-based JSB's MultiView Mascot provides windowing capabilities on character and AlphaWindow terminals, connected to Unix systems. It also offers terminal emulation. DECadvantage is an integrated application environment, which runs under Santa Cruz Operation Inc's version of Unix. It supports multi-user terminals as well as personal computer client and Unix server configurations. Product manager for DECadvantage Hans de Jong says "We are delighted with the initial interest in this package. With MultiView Mascot, we are able to offer our customers using terminal-based configurations, a powerful multi-windowing capability with a modern look and feel, but without their needing to adapt their existing applications." The system is available now to DEC customers and value-added resellers. MultiView Mascot costs £2,000 for a 16-user licence.

...AS CHAMELEON IS GIVEN THE JSB TREATMENT

Maidenhead, Berkshire-based, Tetra Ltd says Chameleon 2000, its Unix-based financial and accounting software, now supports JSB Computer Systems Ltd's Multiview Mascot windowing interface. According to Tetra, Chameleon users will now be able to view multiple Windows and Unix applications and perform several different tasks simultaneously on Unix based character terminals. It also enables Chameleon 2000's six accounting modules to interoperate with a range of Windows applications including spreadsheets, word processing and graphics. To do this, Mascot uses Dynamic Data Exchange links, which extracts data directly from the accounting system and transfers it a spreadsheet, such as Microsoft Corp's Excel. Cut and paste options for text and graphics are also available for both platforms. In the meantime, Tetra has announced two joint UK marketing agreements with Sequent Computer Systems Ltd and Motorola Computer Group Ltd to put Chameleon 2000 on Sequent's Symmetry 2000 and Motorola's 8000 machines. +44 628 770939.

ICL TAKES HIGHLAND'S FLEXLM

ICL plc, in a move to revamp its Unix software licencing programme, has gone to Palo Alto, California-based Highland Software Inc for its software licence manager, Flexlm. According to Highland, Flexlm is designed to make software licencing more flexible for the user and easier for the licenser to administrate. For both parties it monitors the number of users logged into software, how often its used and reports back licence infringements. To licence software customers will be issued a set of right-to-use electronic keys which unlock the operating system for a specified number of users, ICL says. One key can be authorised for up to 250 users. The new flexible licencing programme will also - for the first time - allow users to take a product licence for a given number of users on a local area network, irrespective of hardware platform or number of systems. Each LAN has to have its own licence and cannot be bridged over wide area network connections. ICL will start distributing trial packages bundled with DRS/NX V7 in June - with full implementations embedded with DRS/NX V8 due for release in the first quarter next year. Hewlett-Packard Co, Software AG, and Sun Microsystems Inc have also licenced Highland's software.

FUJITSU MAKES BIG LOSS AS TOSHIBA AND HITACHI PROFITS PLUMMET

The numbers from Fujitsu Ltd, Hitachi Ltd and Toshiba Corp, all of which announced last week, were every bit as bad as expected, with Fujitsu plunging to a consolidated net loss of \$295m and the other two more comfortably diversified companies reporting sharp profit declines of 39.4% at \$699.4m and 48% at \$186m respectively. Fujitsu attributed its loss to the sluggish global economy, but the company has no hit products in the computer market now that mainframes have gone ex-growth, it is only embarking on building a mid-range Unix business in Japan, in part with machines made by its ICL Plc affiliate and by Sun Microsystems Inc, and its personal computer business labours in the shadow of that of NEC Corp. Indeed the one true bright spot in the Fujitsu firmament is ICL now that Amdahl Corp labours under the same woes as its 42% shareholder. Fujitsu says it expects to break even in 1993-94, with zero net profit. Toshiba and Hitachi have the cushion of their heavy electrical divisions to fall back on - indeed Hitachi was largely dragged down by its mainframe business and it must be wondering how much longer that game will be worth the candle.

MILLER RESURRECTS ACE VISION

WITH NEW NT-ON-Mips COMPANY

One-time architect of the ACE Initiative Bob Miller, erstwhile chief of Mips Computer Systems Inc and its successor Mips Technologies Inc, is bent on hammering out his initial vision. In February, he started NeTpower Inc a brand new hardware maker dedicated to building Windows NT boxes based on the Mips R4x00 RISCs, our sister publication *Client Server NEWS* reports. If NT hits, the Sunnyvale, California company believes it will be doing a few hundred million dollars worth of business in three to five years. NeTpower expects to deliver its first three unnamed turnkey machines in volume this fall: a sub-\$5,000 entry-level R4000 desktop, a sub-\$10,000 high-end R4400 desktop and a low-end sub-\$10,000 R4400 deskside server. The entrants presuppose a networked client/server architecture. Next year, in what will be co-founder Ed Frank's third implementation of a commercial symmetric multiprocessor, it anticipates breaking into SMP. The boxes are currently in external alpha sites where the company hopes to validate some of the assumptions still swirling around NT and the Mips architecture such as whether a Mips NT machine can hack it in the Intel environment as a price/performance player. NeTpower machines are meant to look, feel and smell like a PC. They fit in a baby AT form factor and incorporate ISA expansion slots. The company has turned its nose up at EISA as unnecessary and used its own high-speed local bus. There are built-in SCSI and networking resources. Its beta experience this summer will help NeTpower sort out exactly how the machines should be configured. Stuff like the monitor, standard RAM size (probably at least 16MB), and whether to make CDs optional versus price. The NT market being akin to a continent in formation, such seemingly obvious requirements are not at all that obvious, making NeTpower a valuable case study. The entry client machine will probably use a 50MHz R4000 Mips chip and deliver around 60 Specmarks performance; the server will probably use a 75MHz R4400 and deliver around 90 SpecMarks. Chip frequency and size of secondary cache on the box in between are currently undecided. NeTpower has decided to use Acer's new PICA R4000/4400 six-chip chipset for its initial machines.

PYRAMID'S ORACLE-BASED CLUSTERING SYSTEM

Mountain View, California-based, Pyramid Technology Corp has introduced Valence Cluster, the first fruits of its co-development with Oracle Corp (UX No 423), to provide clustering capabilities for its MIServer and ES range of servers supporting the Oracle 7 Parallel Server option database. Pyramid says upto four machines each with 24 processors can be configured to dynamically share the Oracle database, which increases transaction throughput to the database threefold and significantly improves data availability to users. Valence also embraces redundancy technology which protects users from single points of failure, irrespective of hardware, software or network failure. Support for other parallel database developers including Informix Software Inc and Sybase Inc will be added in the future. Pyramid OEMs including Ing Olivett & Co SpA, Siemens Nixdorf Informationssysteme AG and ICL Plc all have rights to rebadge the technology but have yet to go public, firm says. Valence Cluster is out from \$200,000 up.

NEW OBJECT TOOLSET FROM CADRE

Providence, Rhode Island-based Cadre Technologies Inc has introduced ObjectTeam, a suite of object-oriented development tools based on the Rumbaugh et al Object Modelling Techniques (OMT) and Shlaer-Mellor Object-Oriented Design Language Environment (OODLE) methodologies. The OMT tool supports object, dynamic and functional models including; automatic database definitions for ANSI SQL, Oracle7, Versant, ObjectStore, Objectivity and Ontos; and re-engineering and reuse of C and C++ designs. The OODLE software supports a variety of design and analysis functions including automatic work generation, intelligent navigation, report and documentation generation, on-line help, and C++ and Ada code generation. ObjectTeam products are available for Sun, HP, Silicon Graphics and IBM platforms from June. Prices start at \$4,000.

FULCRUM HAS SQL TOOLS FOR TEXT RETRIEVAL

Fulcrum Technologies Inc, Ottawa, Canada has introduced SearchTools, a suite of SQL-based query tools that allow corporate developers, working in client/server environments, to access text retrieval applications via SQL. The core component of SearchTools is an application programming interface based SQL Access Group's Call Level Interface specification, which enables users working in Microsoft Corp's Visual Basic, Windows or C to interrogate Sybase, Informix and Oracle databases and other third party 4GLs for document intensive data. SearchTools works on a variety of operating systems including OS/2, AIX, HP-UX and Solaris 2.1. Support for Microsoft Corp's Windows NT and ODBC specification will be added later this year. Future product enhancements will include support for the Standard General Markup Language (SGML), ISO's SQL3 specifications and the Object Management Group's Object Request Broker, the company says. SearchTools 1.0 is available now and is priced at \$11,250 - £7,260 per copy. +1 613 238 1761.

DEC DULY LAUNCHES ITS ALPHA PC...

Digital Equipment Corp last week unveiled its much-anticipated 150MHz Alpha personal computer, the DECpc AXP/150, plus two "Pentium ready" Intel Corp 80486-based machines, models DECpc DT and DECpc MTE, all three designed to run Microsoft Corp Windows NT. In an attempt to streamline its personal computer range, DEC plans to market the new Alpha system in parallel with an as-yet unannounced Pentium-only system called DECpc 560 ST that'll debut at a similar price point and configuration as the Alpha machine. The DECpc AXP/150 is a minitower machine that comes with 16Mb to 128Mb RAM, 245Mb disk, 512Kb cache, six EISA slots and 14" colour SuperVGA monitor. Other features include two serial ports, Ethernet adapter, five drive bays and a SCSI controller. It costs £5,350. DEC says 250 developer systems are with independent software vendors - 1,000 should be in the field by June 30. It expects 300 Alpha applications to be available by September. The DECpc AXP/150 and DECpc 560 ST will support Intel Corp's Pentium Peripheral Connect Interface bus specification, which should allow NT applications running on either platform to interoperate. The "Pentium-ready" DECpc DT and DECpc MTE are priced at £1,400 and £2,100 respectively.

...NOT A HOT BOX FOR WINDOWS APPS...

The DECpc AXP 150 is not the machine for people that want to run shrink-wrapped Windows applications quickly. Although the Insignia Solutions Ltd-sourced MS-DOS and Windows emulation enables users to run existing iAPX-86-based applications without modification, they run on the £5,350 Alpha RISC based machine at Intel 80386 or 80486 speeds. It is not intended as a mass-market machine, says Dennis Saloky, DEC's marketing programmes manager for NT. Instead he positions it as a developers box and claims that demand is strong. It is these developers, of course that DEC will depend on to produce the the Alpha-compiled NT applications that will deliver the high performance promised by the processor. For the mass-market boxes, wait until the autumn, says Saloky, when the company is likely to launch lower priced Alpha PCs with comparable or perhaps higher performance. The cheaper RISC-based machines are likely to impinge directly on the territory occupied by the company's newly announced Pentium machines. In fact, assuming that Pentium pricing stays constant, the new machines will offer comparable pricing and higher performance, says Saloky. The sub-\$5,000 Alphas will be joined by 200MHz and maybe 300MHz Alphas.

...AS IT SHOWS INTEL-TO-ALPHA DIRECT BINARY CODE TRANSLATOR

DEC is contemplating producing a translator that will take the binary code from shrink-wrapped Windows applications and spit out Alpha code. The result is faster than the standard SoftPC-based Windows and MS-DOS emulation, but slower than code specifically compiled for the RISC chip. The company launched a direct VAX-to-Alpha binary translator last November and has been shipping an R-series-to-Alpha translator for the last three months. Nonetheless it still has qualms about the Intel Corp equivalent according to Richard Sites, the Alpha CPU architect who demonstrated the technology at Comdex. He is trying to gauge the interest from developers, and also which set of Windows application programming interfaces it makes most sense for the translator to support: the old Win16 standard, or the intermediate Win32s version. Sites' demonstration takes a simple piece of Mandelbrot-plotting code written for the Intel machine and runs it in a variety of ways on the Alpha machine. The times to complete give a rough guide as to what users can expect from heavy computation work:

66MHz 80486: 40 seconds

60MHz Pentium: 26 seconds

Source code recompiled for an Alpha AXP 150: 14 seconds

Intel code running in the standard Windows emulation on an AXP 150 (Sites' best guess - no benchtest run): 80 seconds

Intel binary code translated to run AXP 150: 24 seconds

JAPAN BACKS UK FIRM TAO'S COMPACT PARALLEL OBJECT OPERATING SYSTEM

An object-oriented parallel operating system that is completely portable between all widely used processors, so much so that applications do not even need to be recompiled is the creation of a British company - Tao Systems Ltd of Belsize Park, London NW - which has substantial financial backing from Japan. Taos relies on a Virtual Processor - a 32-bit machine with 16 registers and support for standard data types and addressing modes, for which all applications are written. The run-time code is loaded onto a real processor and translated on the fly into the chip's native instruction set. It is currently up on the Transputer and the 80386, with 68000 family, ARM RISC and MIPS R3000 processors a few months away. The most significant feature of Taos is that the kernel takes up just 13Kb of memory - and is blindingly fast on complex applications such as graphics ray tracing. Details of the operating system: page six.

IBM, HARRIS TEAM ON SVR4.2 MP FOR RS/6000

Despite its sponsor membership of the Open Software Foundation, IBM Corp is to put Unix System Labs' Unix SVR4.2 MP up on the RS/6000. The move comes as part of IBM's evolving relationship with the Computer Systems Division of Harris Corp. The new operating system is planned for spring 1994, and is being developed by Harris for both the RS/6000 and its own Night Hawk machines. IBM has been driven into the SVR4 camp by customer demands in the US federal government and the telecommunications industry, and the IBM Federal Systems Co is helping Harris out with the work. It will provide security and real-time features required by government intelligence and defence agencies, Department of Defense contractors and others. It is based on SVR4.2 MP and will offer B2-level security capabilities as defined by the US National Computer Security Center. Harris will develop the new operating system to be compatible with the PowerOpen Association's application binary interface which will provide access to applications being developed under PowerOpen standards.

MOSES OUTLINES OPEN SYSTEMS COMMANDMENTS

A handful of large open systems users that banded together last year to form MOSES - Massive Open Systems Environment Standards - have published a set of preferred open systems specifications for massively parallel hardware and software vendors. Group members include British Telecom International, Burlington Coat Factory, Millipore Corp, US West NewVector, Oracle Corp and Sequent Computer Systems Corp. The first four specifications concentrate on event monitoring; backup and recovery, which includes increased backup parallelisation and improved archiving capabilities for databases of 20Gb plus; task management and change management. The first of many specifications, the group plans to roll-out more than 30 specifications over the next two years covering areas such as massively parallel databases, systems evaluation, security, disaster recovery, report viewing and data sharing and delivery. In anticipation of Moses' demands, some vendors including Computer Associates and systems management start-up OpenVision Technologies Inc (UX No 434), have already begun talking to Moses about product compliance. Oracle and Sequent (also Moses members) have already endorsed the group's specifications and will make current and future products Moses-compliant. Copies of the specifications can be obtained over the net: tudor!udcsig-request@sun.com.

HP TO PUT NEXTSTEP UP ON PA RISC

Following the decision to licence Steve Job's NextStep 486 object oriented operating system on its line of Intel Corp 80486 systems, Hewlett-Packard Co last week bit the bullet and said NextStep version 3.2 will be available on its Precision Architecture RISC-based HP Apollo 9000 series 700 of Unix workstations from the middle of next year. Talks between Job's Next Computer Inc and HP date back to the beginning of the year (UX No 416), and the two are now teaming to offer a bundled range of Next software on HP systems, targeted at the financial services industry, under the name Object Enterprise. In addition, Next's Portable Distributed Objects system for distributing applications across a network will allow NextStep objects to be deployed on HP-UX servers from the end of the year; the company's NetInfo network management software will be integrated with HP's OpenView system management tools and will also be available on HP-UX servers from the fourth quarter of this year. A set of application binary interfaces are currently being developed by NeXT to provide application interoperability between Intel Corp and PA-RISC platforms. The two say Open Software Foundation Distributed Computing and Distributed Management Environments and the Object Management Group's Common Object Request Broker Architecture will also feature in Object Enterprise. Meanwhile, NeXT also announced the general availability of NeXTStep 3.1 and claims orders for more than 40,000 copies of the software. NeXT has signed up Xedoc Software Development Pty Ltd, Melbourne, Australia to market and support its Netinfo network administration tools on HP PA-RISC and DEC Alpha AXP workstations. NeXT says DEC, Compaq Computer Corp and NCR Corp are also to offer NeXTstep for Intel processors on some of their 80486-based personal computers, pre-installed or bundled by reseller organisations.

SUN TEAMS WITH FUJITSU ON MICROSPARC II

Sun Microsystems Computer Corp and Fujitsu Microelectronics Inc have teamed to design the next-generation highly-integrated, cheap Sparc for low-cost desktop and server, portable and high-end embedded markets. The first microSparc II is a three-level metal design in 0.5 micron CMOS due to sample late 1993 (UX No 427). MicroSparc II has a new floating point unit, enhanced integer unit and larger cache. It uses 3.3V and includes on-chip power management.

MICROSOFT PITCHES FOR 1m SALES OF WINDOWS NT IN YEAR ONE

By William Fellows

Microsoft Corp formally launched its widely-previewed Windows NT operating system at Windows World in Atlanta, Georgia, last week. Windows NT is the Redmond, Washington company's first 32-bit offering - and the first to offer support for multiple processors - and will be available in configurations for client and server systems. Client versions of Windows NT are expected to be generally available by June 30, although Microsoft chairman Bill Gates tendered a conservative 60 day timescale for introduction at the launch. He described Windows NT as representing "nothing less than a fundamental change in the way all companies can address their business requirements. Using Windows NT, he said, "companies can downsize critical applications, provide high performance personal computing, integrate their exiting desktop business applications and pull together data from all over the organisation." Windows NT is designed for use on Intel Corp 80386, 80486 and Pentium-based systems, and is also being supported on the Digital Equipment Corp Alpha AXP Silicon Graphics Inc Mips R4000 RISCs - both 64-bit architectures. Microsoft claims Windows NT is certified to run on more than 1,000 hardware platforms, including 25 symmetric multiprocessors, supports 650 printers, 50 SCSI peripheral devices, 25 network adapters and 12 different types of display adapters for VGA, SuperVGA and XGA video modes. It says 75 application development toolkits are available for Windows NT now - with 175 more expected by year-end - 50 applications already shipping - with 450 more (32-bit packages) due by the end of the year - with 1,500 more under development. Microsoft says more than 25% of these are being ported from Unix, VMS, AS/400 and other high-end systems. Described as a superset of Windows 3.1 for Workgroups, Windows NT comes with the has Windows interface, Object Linking and Embedding, Dynamic Data Exchange, offers multithreading, security, object management and support for the Win32 application programming interface. The Advanced Server version of the operating system additionally includes centralised management and security, remote access services, and network support for Apple Macs. Microsoft boasts it could take "as little as a year for Windows NT to surpass other established high-end systems as the platform of choice for corporate networking and high-end business applications." However, analysts observe that Microsoft's goal of delivering a million copies in the first year is trifling compared to the 25 million copies of Windows it has shipped since May 1990. Nevertheless, they say, Windows NT will be fundamental in Microsoft's strategy to move its business from desktop personal computers - MS-DOS already runs on about 90% of the 140 million PC machines worldwide - to mid-range and high-end systems. Microsoft's 24 OEM hardware suppliers have been told to expect client and server Windows NT products from June 15th, though other insiders say the server software may not be around until later in July. The products will be available from all usual retail outfits, but Microsoft is separating supply from service. Support will be available from leading vendors backed by a contractual support service from Microsoft. Microsoft channel partners will supply other services to resellers and support will also be available from Microsoft Connect.

The desktop, or client, versions of Windows NT will be priced at £400 - \$500 - on a per-unit basis, or £250 as an upgrade from Windows 3.1 or OS/2. Multiple licence packs start at £340 and go to £28,900 for 100 users. Academic rates go from £169. Windows NT Advanced Server, which operates a desktop network, will be £1,130 - \$1,500 - until the end of the year - £2,300 - \$3,000 thereafter. The upgrade price from LAN Manager or OS/2 is £470. Multiple licence packs start at £960 and go to £18,060 for 20 users. The SQL Server for Windows NT, co-developed with Sybase Inc, goes from £800 for a single-user licence to £12,000 for 1,000 users. SNA Server for Windows NT for 20 users starts at £2,000 and rises to £4,800 for 250 users. OEMs are expected to get the software at up to 80% off list price, depending on volume.

Windows NT is not only a challenge to OS/2 - which Microsoft originally developed jointly with IBM Corp but has since abandoned - the but also Unix, which is now installed on some 24 million workstations. Indeed Microsoft is pricing Windows NT competitively with the recent desktop Unix entries such as SunSoft Inc's Solaris x86 for Intel which is £600 - \$800 - Santa Cruz Operation Inc's Open Desktop 3.0 Lite which retails at £500 - \$700 - and Univel Inc's UnixWare, the cheapest Unix on the block at £170 - \$250 - for the Personal Edition and £870 - \$1,300 - for servers.

Windows isn't the only trademark Microsoft is having trouble in getting. NT is also a no-go. Northern Telecom - itself a large Microsoft user - says it has a prior claim to the initials and has told Microsoft it can't use the moniker. "Windows NT is our trademark and product name. Please do not abbreviate it to NT," the company pleads in its literature.

IBM WORKPLACE OS KERNEL FROM TALIGENT IS THE KEY TO THE COMPANY'S FUTURE PLANS

By Chris Rose

The eyes of the world may have been on Microsoft Corp Windows NT, but over at the IBM booth they were pulling out all the stops to show that OS/2 is far from dead. Conscious of NT's symmetric multiprocessing abilities, IBM was previewing a beta symmetric multiprocessing version of OS/2 version 2.1 running on a four-way AST Research Inc box. But it is clear that the future lies with a microkernel, which IBM dubs the Workplace OS and will be using to host future versions of OS/2, AIX and MS-DOS with Windows. If this microkernel sounds familiar, it should - Workplace OS is none other than the extended and neatened Mach-based microkernel that the Taligent Apple-IBM joint venture is using to host its eponymous object-oriented operating system. But while Taligent is promising action in 1995, IBM will begin shipping beta microkernels to hardware vendors and people that build "personality neutral services"; which means those capabilities common to all operating systems. Then in the third quarter the company will ship a beta AIX personality to sit on top of Workplace OS, with an OS/2 Personality following in the last quarter. This is not just technological tinkering, according to Lois Dimpfel, PS Director with the Personal Systems Programming Centre at Boca Raton. She envisages perhaps two or three beta versions, and then after that we will see a new OS/2 running as a personality on top of Workplace OS. At the same time both the old and new versions of OS/2 will get a top-dressing of Taligent technology later this year, in the form of a new object-oriented user interface and programming interface - which sounds rather like Microsoft's Cairo plan. The idea is that OS/2 developers who write to the Tali-OS/2 combination will be able to convert them with the minimum of fuss. But wait a moment, aren't the people at Taligent talking about OS/2 and AIX personalities (that they call 'adaptors') to sit on Taligent? - on the one hand there is a microkernel with Taligent on top and an OS/2 adaptor. On the other hand there is the same microkernel, with OS/2 on top running a skinny Taligent layer. Yes, that is exactly what is happening. IBM senior vice-president and general manager of its personal systems division James Cannavino is totally wrapped up with object technology and believes that it is likely to sweep everything before it. In the meantime, getting OS/2 on top of the Workplace OS microkernel should make it processor-independent. Ms Dimpfel says almost all the major hardware manufacturers are getting copies of the beta Workplace OS and that IBM is garnering a lot of interest from those that have built their businesses on proprietary, vertical-market operating systems and are interested in putting them up as personalities on a microkernel - such as Workplace OS - that could gain wide industry support.

ACE LIVES, SORT OF, AS NEC ANNOUNCES CHIP SET FOR ADVANCED RISC MACHINES

The Advanced Computing Environment lives on, sort of, or if it is dead, NEC Electronics Inc has not heard about it and the Japanese company's contribution to the festivities at Comdex/Spring in Atlanta is the launch of a new reduced instruction set computing chip set, the MCT-DP/MCT-ADR designed to facilitate development of high-performance systems based on the R-series architecture. The company also announced the ARC100 and ARC150 manufacturing kits that include the Advanced RISC Computing chip set as well as all of the hardware and software necessary to develop systems to run Microsoft Corp's Windows NT. The highly integrated three-chip set acts as an interface to NEC's highest performance microprocessors, the Vr4000 and Vr4400. The set consists of two types of devices, the MCT-DP data path controller and the MCT-ADR address path controller, each running at speeds up to 50MHz. Two MCT-DP chips are implemented to provide the system's data path for input-output and memory. One MCT-ADR chip is required for the address path and system control logic. The ADR chip also includes the memory (DRAM) controller, slave mode Vr4000/Vr4400 bus interface, input-output device control logic, video interface controller, interval counter and direct-memory access controller. The ACR chip set features a 64-bit path for graphics and a 128-bit path for main memory. Average power dissipation for the MCT-DP is less than 1.2W and for the MCT-ADR less than 1.5W. The ARC100 manufacturing kit features all of the necessary hardware and software for a system based on the Vr4000PC or Vr4400PC primary cache CPUs. The ARC150 manufacturing kit uses the Vr4000SC or Vr4400SC secondary cache CPUs. The kits include an ARC chip set, Vr-Series microprocessor, paper schematics of the system and associated documentation, read-only memory and hardware abstraction language binaries. Gerber tapes for the mother and daughter boards are also included. The three-chip set is out now at about \$100 in quantities of 10,000. Both the ARC100 and ARC150 manufacturing kits are planned for July at \$5,000 each. NEC also expects to provide manufacturing support for the Acer Inc PICA chip set, another Windows NT system design for manufacturers of low-cost machines. NEC plans to sample the Vr4200, first member of its low-power line formerly called VrX, by the end of 1993.

COMDEX AND WINDOWS WORLD NEWS

By Chris Rose

Delivering the keynote address at the **Windows World** annex to **Comdex** last week, Bill Gates announced that NT source code will be given to some US research institutions, including the **Massachusetts Institute of Technology**, the **University of Washington**, **Stanford University**, **Brown University** and **Xerox Palo Alto Research Center** and they will be free to make their own enhancements to the **Microsoft Corp** operating system. **Unix System Laboratories Inc** has been less encouraging of the university fraternity in recent years, and the move is intended to unsettle the Unix community. Gates also claimed NT's Posix interface made it as easy "to move applications here as to any of the versions of Unix out there."

Among the queue of nervous users invited onto the stage to be interviewed by an avuncular Bill Gates was one from **National Westminster Bank Plc**, which is developing a document management and workflow system based on 40 multiprocessor **Sequent Computer Systems Inc** servers and 150 **Windows for Workgroups** clients.

Lee Reiswig, head of **IBM Personal Software Products** says IBM can get NT applications running under OS/2 by implementing a "thin layer" of code - but will do it only when there are sufficient applications.

Insignia Solutions Ltd, High Wycombe, Buckinghamshire, is reminding the world that in the early days of **Microsoft Corp's Windows NT**, all anyone will be able to use in it is **Insignia's SoftPC** - integrated within NT to provide the **MS-DOS** and 16-bit **Windows** emulation environment that must suffice for almost all users until 32-bit applications come along - in the version of NT that supports the **R-series** and **Alpha** chips, **Insignia** emulates the **iAPX-86 CPU** and other hardware including graphics boards, disk controllers and floppy disk drives.

James Cannavino, **IBM Corp** senior vice-president and **Personal Systems** supremo says the company is getting 6,000 to 7,000 calls a day on its OS/2 number requesting details of OS/2 2.1, which is due to ship on June 14: he claims that current sales of OS/2 are running at around 200,000 copies a month. He also indicated that IBM would be implementing **COSE** specifications upon OS/2.

Cannavino took some time out to explain exactly what **Louis Gerstner** is doing with regard to the company's restructuring - **Gerstner**, he says, "has stopped any organisation in IBM that was creating a subsidiary just for accounting reasons" - instead, he decided it was better to change the accounting practices - "which is great" declares **Cannavino**, "because it means that the accountants are staying up as late as we do now".

The multiprocessing version of **IBM Corp's OS/2** demonstrated at **Comdex** will be going into beta test sites this summer: theoretically it is capable of supporting up to 16 processors, but the company humms and hahs about how many are practicable; the kernel itself is locked so that it runs on a single processor, but this will change in the forthcoming versions using **Workplace OS**, says **IBM's Ms Dimfel**.

Poet Software Corp, Santa Clara, says it has the first object-oriented database system running under **Microsoft Corp's NT** in the shape of **Version 2.0** of the company's **Poet** object database.

Poet reckons it has the first object database for NT, but **Objectivity Inc** is stomping at its heels with the **Objectivity/DB Starter Kit** for **Windows NT**, also claiming it to "the first object-oriented database management system for **Microsoft Corp's Windows NT** operating system". It claims that the kit will enable companies to develop distributed, high-performance object-oriented applications that harness the full potential of the 32-bit **Windows NT** environment - and do it cost-effectively - and it can also be used to develop and deploy object-oriented applications under **Windows 3.1**. The starter kit will be followed by full communications to provide transparent access, storing and sharing of objects distributed in multiple databases and mixed networks of **Unix**, **VMS** and **Windows NT** that use the **Network File System** protocol. It will be available in August at \$3,000.

Banyan Systems Inc says **Microsoft Corp's Windows NT** has been integrated into its **Vines** enterprise networks. **Banyan's Windows NT** client support will offer users complete integration into the **Vines** network with access to **Banyan's** enterprise network services, all linked together with the **StreetTalk III** global directory service, enabling NT to be implemented as a **Vines** client or application server within the **Banyan Vines** enterprise.

VMark Software Inc, Framingham, Massachusetts, has wasted no time in getting its **Pick-derived uniVerse** "postrelational database management system" up under **Microsoft Corp's Windows NT** and has been demonstrating it in Atlanta. **UniVerse** software provides **Windows NT** users with immediate access to more than 1,000 proven applications that serve a broad spectrum of individual markets and enables NT users to develop new ones easily, the company claims. It offers **Structured Query Language** and transaction management capabilities with multi-valued fields, variable length records and dynamic re-structuring. The product is available now and is \$435 per user for licences of four to 63 users and \$365 per user for licences of 64 or more users.

Robert Palmer's chief executive perspectives speech at **Windows World** was liberally sprinkled with demonstrations of just what you can do with the aid of fast processors like **Alpha**. Most impressive was a demonstration of real-time speech to text, where **Digital Equipment Corp's** chief tempted fate by getting the machine to translate a few words. Not only did the computer get them right but **Palmer** didn't slow his delivery at all, and the printed word appeared a fraction of a second later. The demonstration came courtesy of a piece of software called **Sphinx II** from the **Carnegie Mellon University**. **Sphinx II** uses hidden **Markov** modelling to achieve its results; a set of algorithms developed in the mid to late 1980s. What is new, according to **DEC** consultant engineer **Lawrence Stewart**, is that hardware now has the horse-power to drive them in real time. The version that **Palmer** played with has a vocabulary of 2,500 words, very small by human standards, though enough for application-specific work such as booking airline tickets, or controlling computer front ends. Larger versions are already in the works though - **Lawrence** says that the company already has a system with a vocabulary of 20,000 words that will happily cope with most stories read out of the **Wall Street Journal**. But the real significance of the demonstration is that for the first time high-powered personal computers are capable of keeping up with normal speech without... the... speaker ... doing... this. The delay that appeared in the demo, he says, is constant, irrespective of the length of sentence that is being interpreted. From here on in, says **Lawrence**, increased performance and memory will simply lead to larger vocabularies. The next real challenges lie in natural language processing - enabling the machine understand exactly what is meant by the rambling, illogical verbalisations in which humans tend to indulge.

Meanwhile, **IBM** is particularly proud of its own advanced speech recognition personal computing system, which it was showing off at **Comdex**. The system can be totally operated by spoken commands, eliminating the need for mucking about with rodents or using the keyboard. The company says its researchers took six months to extend the concept from a client-server system - as shown at the last **Comdex** event - to a personal computer. The system has a 20,000-word vocabulary and can take dictation at 70 words per minute with 97% accuracy, once it has been trained to a user's pronunciation.

It is hard to find much at **Comdex** and the companion **Windows World** show that is not NT-related this year, and **Tivoli Systems Inc** winged in from Austin, Texas to announce that, as expected (**UX No 434**), it will develop a version of its product for NT, and brought along enough gear to demonstrate the **Tivoli Management Environment** for **Windows NT** in an early form. It says the product will make it easy for systems administrators to manage, configure, change, monitor, and enforce security of NT systems across large networks, and enable systems managers to manage **Windows NT** and **Unix** systems, as well as **Windows** and **MS-DOS** client machines, from a single, integrated systems-manager's desktop. It will start trickling out at the end of the year with a developer's toolkit, and management applications will follow in early 1994.

Frame Technology Inc, San Jose, is right in there with **FrameMaker 3.0** for **Windows NT**, needless to say claiming it to be the industry's first document publishing application for **Windows NT**: it will be available customers within 30 days of the first customer ship of **Windows NT** at \$800.

And **Informix Software Inc** is also determined not to be left behind should any rush to NT develop - it says it will first make available **Informix-SE**, its mid-range relational database management system, under the **Windows NT Advanced Server** operating environment - just as soon as **Microsoft** ships.

The jury will remain out for a year or two yet on whether the operating system can see off the threat from **Microsoft Corp** and its **Windows NT**, but **Unix** is definitely not winning big in the public relations stakes: the **Wall Street Journal** dismisses **Unix** as "a catch-all term for many operating systems that share some features and a common parentage".

TAOS: THE PARALLEL OBJECT-ORIENTED OPERATING SYSTEM THE WORLD IS WAITING FOR?

By Chris Rose

Imagine an operating system that is suitable for everything from photo copiers to games consoles to video-graphics work to transaction processing. It is completely parallel and can intelligently farm bits of itself and applications across multiple processors, or alternatively sit on just one. Now imagine that it is processor-independent and is already running on 80386 and 80486, and Transputers, with the 68000 family, ARM RISC and MIPS R3000 processors a few months away. Now say that the applications are completely processor-independent too - that you don't even have to re-compile them to move them from one machine type to another, and indeed bits of them may even wander from processor type to processor type in the course of execution. Why not add network support so that if you plug an extra personal computer into the local network, everyone's applications will automatically run a bit faster (and they already run very quickly indeed)? Finally, for good measure, let's say that the operating system kernel takes up just 13Kb of RAM and the entire executive and developers code will fit onto a single 720Kb floppy when compressed.

This is not fantasy, this is a real-life operating called Taos from Tao Systems Ltd, a small company based in North London. Moreover Tao claims to have found substantial funding and board-level interest from some of the biggest Japanese computer and electronics companies, the identities of which will be announced this summer. Chris Hinsley, Tao Systems chief executive and the operating system's architect claims without a blush that the Japanese computer industry will completely steam-roll the US and Europeans, and that Taos will be the fuel. Funding is being provided by a separate marketing company, TK Suppliers, based in Tokyo. This has paid for the first phase of development and is entirely owned by a group of Japanese businesspeople plus Francis Charig, formerly head of trading systems business at the London Stock Exchange, who acts as managing director and the link between TK and Tao Systems. In this way Tao gets money, but also retains its independence: Charig says that Tao Systems has turned down a number of buy-out bids from the US in the last few months. The European Commission didn't prove that helpful either: Hinsley makes no secret of his frustration with the Esprit parallel processing projects, which he sees as obsessed with making Unix parallel - a quest that he sees as fundamentally misguided and doomed to failure in the long term. In the end, too, it was the Japanese that turned out to be most amenable to the idea of throwing away and starting from scratch; which is what Taos does.

Heritage

Chris Hinsley started off as a successful commercial author of arcade games for home computers, and many of Taos's concepts spring from his original need to produce code that would transfer easily between a plethora of machines. The approach he took was to develop a Virtual Processor - a 32-bit machine with 16 registers and support for standard data types and addressing modes, which didn't actually exist. All applications, and the bulk of Taos itself is written in Virtual Processor code, so that at run-time the code is loaded onto a real processor and translated on the fly into the chip's native instruction set. The practical upshot is that, as long as you have the right translator, the Virtual Processor code will run without modification on any chip. The 80386-80486 translator is the latest to be finished after the original Transputer implementations and Hinsley says that now they have first couple under their belts, it will only take a month or two to write each additional processor implementation. Moreover you can have heterogeneous networks of different processors all running co-operatively. Taos' games-based heritage brings other benefits too. Games tend to be inherently object-oriented, says Hinsley (all those sprites moving about and interacting) and games authors often have to cram a lot into a tiny amount of memory while stretching hardware to its limits. As a result Taos is object-oriented at a very fine level and it takes the idea of dynamic linking to its logical conclusion. This means that instead of being a monolithic operating system running monolithic applications, the program just calls in bits of code as they are needed from libraries of routines - rather the same way that ICL Plc's VME mainframe operating system works.

This accounts for the small size of the Taos microkernel, which provides memory and process management, load balancing and precious little else. Even the Virtual Processor translator is retrieved only when needed, and it is Hinsley's boast that no piece of code is ever loaded onto the processor that isn't about to be run. As a result, load-balancing also becomes virtually trivial, he says. Each processor on the network runs its own copy of the 13Kb microkernel and when a new thread is started, the kernel on that chip compares its loading with its immediate neighbours. The calculation takes account of processing power and the speed of communication links, and then the request to start the thread is handed on to the processor with the least to do. This processor carries out exactly the same load balancing process until the thread finds a home, is translated by the chip's translator and begins to run.

All this talk of bits of code being pulled out of disk and cache, being translated on the fly and wandering around networks sounds horrendously slow, but appears in practice to be blindingly fast. A personal computer with a single 66MHz 80486 will render a broadcast quality, full screen, complex piece of ray-tracing in less than a minute. That is with no fancy graphics chips and using a standard VESA video adapter board. The 80486 translator floating point code is still being optimised and in a couple of weeks Charig says that time will be cut to between 20 and 30 seconds. This summer the company will have a board, costing around £1,500 containing four MIPS R3050 RISC processors. This will slot into a personal computer and enable the 80486 and the MIPS processors run code cooperatively, bringing our same ray trace example down to less than 10 seconds. Exactly where all this speed comes from is difficult to pin down; obviously Virtual Processor code is pretty low level stuff and assembler code tends to run quickly by its very nature, however Hinsley is optimistic that the kind of performance seen today will be preserved even when applications are written using the C++ and Parallel Basic compilers that are currently nearing completion - compilers that produce Virtual Processor code, of course. Programmers do not need to worry about the fact that their applications may be running in parallel, Hinsley says, they merely need to think about the appropriate size of object and Taos will do the rest.

Four markets

A product's quality or degree of innovation is never a guarantee of success and a lot will depend on just how hefty these forthcoming Japanese backers turn out to be. So will Taos succeed? There are four markets in which its designers say it will do equally well: graphics, we have already outlined; then there are games consoles - Taos' original home territory; and embedded applications: it may sound odd to have Taos running in a photocopier or a drinks machine, but the tiny kernel makes it ideal, says Hinsley. It may also seem improbable that the world's transaction processing systems will suddenly switch to Taos, but on the other hand the company is already hard at work building SQL interface objects and others that will confer Posix compliance, it has even chatted to a bank about payroll applications. Its acceptance will be helped by the pragmatic approach that Tao Systems is taking in integrating its baby with existing systems. So, for example with the 80386 and 80486 implementations, the company has decided to stick with the MS-DOS file system. Installing Taos then, is as simple as copying the files to your hard disk, typing TAOS and you're in. Similarly, there will be a variant of the 68000 family translator tweaked to make use of the Macintosh file system. The trouble is that both the product and the claims made for it are so unusual that it is impossible to predict whether it will disappear, never to be seen again, or become the biggest thing since MS-DOS. Towards the end of the demonstration, Hinsley leant back and said "of course there's no reason why the fridge shouldn't be .cw 9 doing a bit of your mandelbrot." And he wasn't really joking...

OSF FIRMS SHOW OFF DCE SPURS

IBM Corp, Hewlett-Packard Co and DEC got together at the Open Software Foundation's Challenge'93 shindig in Boston last week to demonstrate their implementations of the Distributed Computing Environment. IBM showed its offering running on an Enterprise System 9000MVS/ESA mainframe connected to a series of RS/6000 workstations and servers. IBM says it will release a DCE developers kit for VM/ESA next quarter. HP had DCE running across both its HP-UX and MPE-based PA-RISC workstations and servers. DEC ran its DCE implementation on Alpha AXP OpenVMS and OSF/1 workstations. Other DCE-compliant technologies shown at the exhibition included: Transarc Corp's Encina transaction processing monitor; Atrium Technologies Inc's Dazel distributed information-delivery system and Sybase Inc's DCE-compliant System 10 prototype.

OBJECTS: NOVELL SO SERIOUS

ABOUT SERIUS IT BUYS IT

We have been forecasting for some time that the future of applications development would become the linking of objects, and that the keys to the kingdom would be held by the companies that sold the best objects, and Novell Inc seems to think so too. It is getting really serious about Serius Corp, the Salt Lake City, Utah start-up where it put up venture capital for an 11% stake early last year. It has reached definitive agreement to acquire the company outright, paying \$17.25m for the other 89%. Serius has developed a library of objects designed to enable non-programmers to create custom applications by simply linking objects on a point-and-click basis. In addition to simplifying custom application programming Serius technology simplifies the linking of applications to various network services, be they directories, security or communications. And applications built with Serius technology are portable between Apple Computer Inc Macintosh and Microsoft Corp Windows environments. The line includes two application builders, Serius Workshop and Serius Developer Pro. Libraries of objects, used inside the builders include Serius Database, SQL, Multimedia, Communications and InterApp.

HP TO BUY METRIX

Hewlett-Packard Co has definitive agreement to acquire Metrix Systems Inc, Nashua, New Hampshire developer of network management applications, on undisclosed terms. The combination will enable Hewlett-Packard to offer a combined combined portfolio consisting of distributed hardware probes and software agents, Embedded Advance Sampling Environment technology products and management applications supported on the most widely-used network management frameworks with HP OpenView, SunNet Manager and NetView 6000.

NUTCRACKER TO SIMPLIFY UNIX-TO-NT PORTS

DataFocus thinks it has cracked the code on moving Unix applications to Windows NT. The company, a wholly-owned \$3 million Virginia subsidiary of publicly held Convergent Solutions Inc, describes its NuTcracker technology as the opposite of Wind/U, the Bristol Technology Windows-on-Unix scheme that may feature in Microsoft's moves to counter WABI. (WABI is the just announced SunSelect product for running Windows applications on Unix that is expected to receive widespread industry support as a cudgel against Microsoft's perceived monopolistic ambitions.) NuTcracker will reportedly allow Unix source code to run on NT's Win32 APIs. DataFocus believes the technology may be of interest to COSE, the anti-NT industry coalition kicked off in March by Sun Microsystems, IBM, HP, the Santa Cruz Operation and Unix System Labs. It is reportedly scheduled to meet soon with two unidentified COSE companies. DataFocus was the first company ever to move the Posix interface to a non-Unix operating system, in this case Unisys' CTOS. It has been working on NuTcracker since the beginning of the year. Although the product is still under development, DataFocus has apparently had some good results with a number of unidentified packages. An alpha version of NuTcracker is scheduled to make it to the outside world by the end of June followed by a beta by the end of July. NuTcracker could be shipping by October targeted at software developers and MIS departments. NuTcracker is supposedly unbiased toward any particular brand of Unix although the second version of NuTcracker, scheduled for some unspecified time in the future, should add Sun's Solaris 1.0 calls. DataFocus estimates NuTcracker currently handles 80% of all Unix system APIs. The rest have to be port by hand, a job that means rewriting about 1% of the code it says. Despite that inconvenience, the potential savings offering by NuTcracker, should it prove viable, is not insignificant. DataFocus estimates the cost of porting a Unix program to Win32 at anywhere between \$250,000 and \$1 million. The cost of a development site license to NuTcracker with unlimited run-time versions for one application is \$50,000. The results are a native port to Win32 without changing the code. Porting time is halved. Testing of course cannot be avoided. It's estimated to be 30% of the job. NuTcracker provides a set of libraries that links Unix code compiled on NT to the Win32 subsystem. The portability is provided by NT and the code is recompiled for each NT environment. NuTcracker makes no use of Posix, even the slight Posix.1 component provided in NT. NT cannot handle X Windows applications. To port X apps over DataFocus must call upon the X portability solutions provided by Hummingbird and DEC otherwise the programs will not adopted a Windows look and feel. DataFocus says the look-and-feel technology just isn't there yet and is looking for partners to help master the problem. Though it needs Unix software to scale the enterprise, Microsoft is not necessarily partial to a solution such as NuTcracker. It would rather the ports be done from scratch to make developers more beholden to Microsoft APIs.

SPIN-OFF CLAIMS TO MAKE

NT & UNIX SOURCE-COMPATIBLE

University of Utah spin-out Hippo Software Inc in Salt Lake City says it has a \$240 package that runs on Windows NT-based PCs that allows developers to write programs that are source code-compatible with both NT and Unix, reports our sister publication *Client Server NEWS*. The package, called Hippix and developed at the university's Center for Software Science, includes Unix commands and libraries that Hippo maintains will let Unix users cost-effectively integrate PCs into their Unix networks by giving them identical tools for both platforms. Hippix also runs on OS/2 platforms and Hippo reportedly has an installed base of OS/2 customers. The Hippix command set includes a hundred utilities implementing most of the IEEE Posix 1003.2 and 1003.2a draft standards like the general utilities awk, the pattern-directed scanning and processing language, grep, the pattern file searcher, sh, the interactive scripting language, and vi, the text editor. It also provides programming utilities such as lex, yacc and rcs which simplify software development. Hippo says support for these commands on PCs increases the ease of multi-platform integration and systems admin. The Hippix programming library supports 90% of the functions of the Posix 1003.1 System API. All Hippix utilities are implemented using functions in the programming library. Developers can use 150 functions to implement non-graphical sections of their applications and what results is reportedly source-compatible with Posix-compliant Unix systems. The company intends making a beta version of the NT software available next month. The commands can be purchased separately for \$180. Hippix is Hippo's first product and it is currently trying to figure out its target market.

UNGERMANN-BASS PUTS ITS NETWORK MANAGEMENT SYSTEM UP ON UNIX

Tandem Computers Inc's networking equipment company Ungermann-Bass Inc has launched a version of its NetDirector network management system for Unix. NetDirector for Unix supports Asynchronous Transfer Mode and is based on Hewlett-Packard Co's OpenView. The two companies have also announced an agreement to co-operate on local network management technologies. NetDirector for Unix consists of Hewlett's OpenView and Network Node Manager application, and Ungermann applications and future third party applications. It is an extension of the company's OS/2 network management products. It can share information with NetDirector for OS/2, including support for client-server, full implementation of an SQL database and various network management applications. First applications supported by NetDirector for Unix will be Ungermann's FocusView network management products for its Access/One Enterprise Hub: Access/One Focus/View, which provides hub management, Ethernet FocusView and Token Ring FocusView. The company plans a second release of NetDirector for Unix later this year to include more management applications, improved integration with NetDirector for OS/2 and management of Ungermann-Bass's Virtual Network Architecture.

PARSYTEC'S PARALLEL DESKTOP SYSTEM

Aachen-based Parsytec GmbH has what it claims to be the world's first high performance parallel desktop system, the Xplorer, based on the Inmos T9000. It comprises between eight to 16 Transputers, with a between 8Mb and 32Mb memory on each node. Extra input-output interfaces, mass storage subsystems and image processing modules can be added to boost performance, with users offered the choice of Inmos's High Performance Transputer Modules or Parsytec's own Transputer Image Processing modules. Up to four Xplorer systems, totalling 64 processors, also can be connected. Xplorer supports both the Inmos software tool set and Parsytec's Parix system. An eight-processor version will cost around £17,000 and a 16-processor machine £27,000. Pre-final spec T9000-based versions will ship in June or July followed by final spec versions in the fourth quarter. According to Parsytec, the Xplorer offers users a migration path to its GigaCube massively parallel supercomputers which are also to use T9000s. Availability will be as for the Xplorer, with prices starting at £34,000 for an eight-node machine and ranging up to £4m for a 1,000-processor model. Meantime, to help users assess the T9000, Parsytec is offering interested parties the chance to bench-test applications using a special evaluation kit. This includes a module with T9000, 8Mb memory and T805 processor connected to a Sparc workstation. The T9000 memory is laid out as a dual ported memory and is therefore accessible for measurements by the T805. Special software running on the workstation parallelises C programs using Parix, ACE compilers and the Inmos C Toolset compiler.

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The weekly information newsletter for the UNIX community worldwide

IBM UK Ltd expects to have shed a further 2,000 jobs by July after accelerating its cost-cutting programme: it had planned to shed 1,200 this year, but to avoid further "bit by bit" cutbacks the company decided to bring forward further redundancy programmes and two weeks ago, 1,400 staff left on a single day and the company will be down to 12,000 by mid-year. Chief executive Nick Temple said "We are now at staff levels we want for 1994 and 1995."

Colorado, Springs-based **Cray Computer Corp** finally shipped its first Cray-3 super-computer. The Customer for the four-processor 128M-word machine, which has a 2.08nS - 480MHz - clock, "fastest in the industry" - is the **National Center for Atmospheric Research**, which will not pay anything during a six-month trial.

Edinburgh, Scotland-based **3L Ltd** intends to convert its parallel C compiler technology for **Digital Equipment Corp's** Alpha AXP processor architecture. Parallel C/AXP will enable developers to create parallel processing software for board and system level Alpha hardware from both DEC and OEM manufacturers. It will be targeted both at systems integrators building top-end embedded systems, and the personal supercomputer market. Existing 3L parallel C users will also be able to migrate to Alpha systems by simply recompiling applications.

One development that did not have too much to do with **Windows NT** last week was the coming together of **Hewlett-Packard Co**, **IBM Corp**, **Microsoft Corp** and **Novell Inc** to announce that they will work together to establish, support and implement open standards for network printing management. The four agreed to support Simple Network Management Protocol as a standard for managing peripherals on a local area network.

The **IBM Corp** board found itself paying out rather more for the services of its new chairman and chief executive: it had to guarantee Louis Gerstner the value of stock and options he holds in **RJR Nabisco Holdings Corp**. Gerstner is still an RJR Nabisco director and is not under any deadline to exercise his options, which run another 11 years. The guarantee covers 300,000 shares of RJR stock and options for an additional 3.2m shares, with a guaranteed price of \$8.125 a share.

NT desperately needs its own series of native benchmarks. Vendors are jerryrigging tests, leaning heavily on the old SpecMarks of the Unix workstation crowd though they're not even ported to NT. Unfortunately the staff just doesn't apply. Neither does Mips, Dhrystones, PC benchmarks, TP or scientific calculations. NeTpower says it will talk to fellow vendors about a testing scheme. **Silicon Graphics** says it's working on a proprietary set of benchmarks that it'll share with others in the fall.

Intergraph Corp has wielded the axe half a dozen times since last August: 100 employees were laid off a couple of weeks ago - the company reported a \$12.5m first quarter loss on revenues of \$282m and has 7,000 staff worldwide.

Taking a page out of **Microsoft Corp's** book, **Intel Corp** has a bunch of "undocumented" features in Pentium that it's collected in a thing called "Appendix H," reports our sister publication *CliNT Server NEWS*. Developers can only get a peek if they sign a non-disclosure agreement. People who want to use Pentium or write garden-variety software for it reportedly don't need it. But "Appendix H" would be mighty helpful to anyone wanting to reverse engineer the chip as well as those who want to do sophisticated software debugging or develop testing.

The only part of the OSF's Distributed Computing Environment (DCE) NT is picking up is the Remote Procedure Call (RPC). **Microsoft** isn't using either the OSF API or code but it's own DCE-interoperable RPC. The API isn't full enough for DEC's tastes so it's working with Microsoft to expand it.

David Flack, the esteemed editor of **McGraw-Hill's** *UnixWorld* magazine, has hung the tag "threatware" on NT.

Insiders say engineers at **HaL Computer Systems Inc** - yet to show a product in the two or more years since its launch - are now working under extreme pressure to make sure they get stuff out of the door on schedule - the situation is described as "very tense."

DEC is moving back into South Africa with a wholly-owned subsidiary, **Digital Sales and Services South Africa (Pty) Ltd**, which begins operation on July 1. It is also associating with two local companies, **Bhekisizwe Computer Systems Pty Ltd** and **Olivetti Information Technology Pty Ltd**. Bheki is a new South African firm set up to operate as an authorised value-added reseller of DEC products and systems, and is backed by majority black organisations.

Tandem Computer Inc has opened a new subsidiary in Budapest, increasing the company's presence in Central and Eastern Europe. It has installed a NonStop CLX system for the Hungarian Savings & Commercial Bank, running Base24 software from Tandem's Applied Communications Inc subsidiary.

On June 15th - the day after its acquisition of **Unix System Labs** is complete - **Novell Inc** will announce a new partnership with **Oracle Corp** on new products and strategies for enterprise network computing, which probably includes the Oracle database going up on NetWare 4.0.

Tivoli Systems Inc founder Robert Fabbio's **Atrium Technologies**, Boston, Massachusetts, will ship Distributed Common System Services, a set of DCE-based services for generic notification, distributed access control and SQL functions in the third quarter: prices go from \$5,100 for a 20 node kit to \$160,000 for a site licence. +1 512 328 6977

It seems we can expect yet-another Intel-based desktop operating system to make an appearance this summer. A little company in Golden, Colorado has been working on its own version of Unix for the last year and half, this one called Usix. The firm, **System 6**, apparently got a lot of the work done by an engineering contingent fresh out of the Russian Academy of Science.

Someone claiming to be in the know told us the other day that the reason **DEC** president Robert Palmer never showed up at that mammoth Unix strategy briefing session the company put the press and analyst corp through back in February was that he saw the rehearsals and didn't want to be associated with it. The executive responsible for it was reportedly banished to Siberia the next day, explaining why John O'Keefe is now in charge of Unix marketing.

Texas Instruments Inc says it has started production of **Sun Microsystems Inc** SuperSparc+ RISC and expects to deliver several hundred thousand per quarter.

Wyse Technology Inc has added a range of entry-level 80486-based Decision 486se Tower systems to its family of Intel Corp iAPX-86 lines. The 15 EISA bus machines go from a £1,740 33MHz 80486DX offering to a £5,335 system using a 66MHz 80486DX2 and run SCO Unix, UnixWare, NetWare, Vines, MS-DOS or Windows NT. Wyse is looking for value added resellers in the UK.

Next step for **Oracle Corp** founder Larry Ellison is to join the board of **NeXT Computer Inc**, alongside Daniel Case III, president and co-chief executive of Hambrecht & Quist Group Inc; they join Steve Jobs and Keiichi Uno of Canon Inc.

Santa Cruz Operation Inc, Santa Cruz home of desktop and low-end Unix, got its initial public offering of 6m shares, 3.6m of them new, away at \$12.50 a share, to raise about \$41.1m net, for which the company did not give plans. The managing underwriters for the offer were **Goldman, Sachs & Co** and **Donaldson, Lufkin & Jenrette Securities Corp**.

IBM Corp is expected to launch a full RAID 5 disk array for the RS/6000 using its new 2Gb 3.5" drives - maybe as soon as Tuesday.

The tale goes that a little while back, **IBM Corp** was using street names, reportedly from the Palo Alto town map, as its product code names - Sierra, Summit perhaps - and had been carefully working up the map, so that all you had to do to put a top IBMer into a real flap was to pick a name from the map a couple of streets up from the most recent one you'd heard of and ask how that product was coming along.

Justifying **IBM Corp's** move into systems integration and facilities management, Jim Cannavino says that IBM has unrivalled experience of making quite incompatible systems work together - "mostly our own..."

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NEW CHARTER TO EXPAND UNIX INTERNATIONAL'S ROLE

Unix International has agreed in principle to a new charter that will significantly expand its role and give it an impact it has never had before with all Unix companies not just its own members, UI officials said. The agreement was apparently clinched by a vote of the UI executive committee, effectively its board of directors, meeting in Tokyo the last week in May. The agreement, described as "substantial," is reportedly being kept under wraps until after Novell Inc formally takes control of Unix System Laboratories on June 14. Until then, no one can officially sign off on the deal which will replace and broaden the agreement UI has had with USL's current owner, AT&T, for some years. UI is believed to have been anxious to renegotiate its charter with USL for months but could not catch its eye until the last few weeks. Novell is reported to have had input into the negotiations through USL. It will be interesting to see how UI's reported new status meshes with COSE - see below. There are already suggestions circulating that COSE will be a one-shot deal, limiting its efforts to the Common Desktop Environment (CDE) and then fading - see page five. It may be that UI has aspirations to pick up where COSE leaves off. The new charter follows an action by the UI executive committee, refocusing UI's energies from marketing to technical transfers and middleware. The existence of the renegotiated charter was offered as evidence contradictory to reports published here last week claiming that support for UI is waning and that USL and Novell, personalities aside, are antagonistic to it. It does after all fund USL's requirements process. UI also attributed its recent shortfall in funds to members' dues not coming in on time, a factor of the recession, rather than the accounting error it previously blamed (UX No 438), and said it is expecting to recruit a resident replacement to head up its Japanese operation. It also denied that staff were laid off without severance or accrued vacation. That was only true of "contract people," it said.

...AS UI SLAMS USL, THE "WHIPPING BOY"

At the same UI meeting there was also an unofficial vote taken by the executive committee members on their attitudes towards COSE. The board - Amdahl Corp's John Palmer, Data General Corp's Done Leveine, Fujitsu's Masahiko Narita, ICL plc's Peter Stuart, NEC's Yasakuni Kotaka, SunSoft Inc's Michael Sears and Unisys Corp's Joe Brown - agreed that COSE will be good for the desktop, however all - bar one abstention - concluded that COSE was not in the long term interest of Unix. Indeed, UI's repositioning - see above - is being hailed in some quarters as a means of "sanity checking" the increasing influence of Hewlett-Packard Co and IBM Corp over the industry via their instrumental roles in COSE. Sanity-checking particularly applies to USL, accused at the meeting of being HP and IBM's "whipping boy," because of the relationship it is forging with the two - neither Unix SVR4 customers - via its participation in COSE. COSE is still perceived as something of a trojan horse for HP and IBM interests. One insiders claimed he'd never before seen USL on the defensive like it was at the Tokyo meeting, where chief executive officer Roel Pieper spoke on behalf of USL and the absent Novell Inc boss Ray Noorda. Apparently the UI board was "very antagonistic" towards USL. It argued USL's relationship with HP and IBM could drive users into the arms of Windows NT and expressed concern that through COSE, Unix might be in danger of becoming a proprietary software environment for HP and IBM.

INTEL "SWITCHES WIRING," DISENFRANCHISING EARLY OVERDRIVE ADOPTERS

Further to those alarming reports that Intel Corp's P24T Overdrive chips might burn a hole in the motherboard of some of the personal computers that have the 238-pin Overdrive upgrade socket (UX No 437), sources say that Intel has got around the problem by making mid-course corrections to the wiring of the socket. That means that those early machines not built to withstand or disperse the heat won't be able to use the P24T anyway, despite their supposed ability to do so. Intel apparently did it on purpose rather than face buying new machines to replace the melted ones. At the moment the problem is that it is unclear which machines can upgrade and which can't. In any case, the chips aren't likely to be available until the fourth quarter of 1994, says the same source.

USL MOVING UNIX SVR4.2

TO CHORUS MICROKERNEL

Unix System Laboratories is gearing up to announce on June 14 that the next step in its product evolution will mean "serverising" the SVR4.2 and SVR4.2/MP operating system by moving it to the commercialised Chorus Systemes SA Chorus/Mix microkernel. USL is also supposed to say that it will take the once inconceivable, now politically correct step and make the system programming interfaces of its microkernel architecture compatible with the Mach microkernel currently under development at the Open Software Foundation's research institute. The latter move of course is a bow to interoperability. USL is eschewing the "big bang" approach. Instead it is planning a staged development of the SVR4.2 and SVR4.2/MP microkernel linking itself with key industry partners such as Unisys, for instance, to benefit from their talent in such areas as fault tolerance, massively parallel and real time as well as their vested interests in commercialising the various technology streams. Some of these partners, each of whom has a separate business arrangement with USL, will be announced next week. Others are slated to be revealed in the future. USL's first step however will be to provide the SVR4.0 Chorus/Mix microkernel directly, probably starting over the summer. This is exactly what Chorus provides today on both Intel Corp and Motorola Inc 88000 platforms. USL will likely restrict its licensing to the Intel version and believes OEMs will take it as an early access starter kit. The really serious microkernel implementation of SVR4.2/MP with the expected third-party extensions will be made available on all the popular microprocessors. USL stresses that the new microkernel SVR4.2 will not break compatibility with previous editions of the operating system. Anything written to SVR4, SVR4.2 and SVR4.2/MP will be binary compatible with the microkernel. All application programming and application binary interfaces will be supported, according to USL executive vice president Mike DeFazio. The "serverisation" implicit in porting to a microkernel will make it easier for USL's OEMs to upgrade their releases as the USL technology evolves, he added, indicating it will represent something of a break with the past when OEMs pretty much had to redevelop their releases and value-adds each time USL created an extension. USL also has its eye on object orientation for the operating system but believes such a move is still premature. It is currently linked to the European Esprit programme to support objects on top of SVR4.

WHITE PAPER OUTLINES COSE PROCESS, DEC DUE TO SIGN

COSE last week began trawling for responses to a white paper it has produced describing how it intends to become a catalyst for the acceleration of the open system process. The paper will be presented at this week's Xhibition show in San Jose, California. Meanwhile, Digital Equipment Corp is expected to declare its support for COSE this week. Details on page five.

INTELLITIC WITHDRAWS FROM 007 OBJECT BENCHMARK

French-based Intellitic International has withdrawn its Matisse database from the 007 Benchmark for object-oriented databases sponsored by the University of Wisconsin at Madison claiming the scale of the benchmark was not ambitious enough in the number of simultaneous users and size of the database being run. However, Intellitic says it also objected to the size of the fee the university demanded for Matisse to be tested and questioned the overall objectivity of the testing procedure. It contends the unbiased nature of the benchmark was compromised when Object Design, another object database vendor, demanded that the university refrain from releasing any numbers on its ObjectStore system. According to Intellitic executive vice president Pierre Moller, "Since Intellitic International does not have any assurance that the financial and technical conditions of this benchmark are consistent for all vendors, we have decided to forego participation." Objectivity, ObjectStore and Ontos were benchmarked on the school's single-user tests and Matisse was to be rated on the multiuser test suite.

BRADLY HAS GINO DEVELOPMENT TOOLS FOR UNIX

UK firm Bradly Associates, Crowthorne, Berkshire, has introduced Gino 4.0, a suite of graphics application development tools for Unix. The Gino product line includes: Gino-F, a programming graphics library for two- and three-dimensional graphics; Gino-Graf, a graphics drawing tool; and Gino-Surf, geographical contour and surface package. The firm also plans to release Gino-Menu, a GUI toolkit, and Gino-CL, a command language interface for non-programmers by the end of the year. Gino-F is available now on DEC Alpha, Sun Microsystems Inc, Hewlett-Packard Co, Cray Systems, Sequent Computer Systems Corp, Pyramid Technology Corp and Convex Computer Corp platforms. It is priced from £950. Gino-Graf and Gino-Surf will be released in the autumn and both products are priced from £550. Support for Windows NT will be added by the first quarter of 1994.

SOFTWARE METERING SYSTEM FROM BACKSTAGE

Matt Christiano, president of Globetrotter Software, has left the company to do another start-up, Backstage Software, already out with its first product, the Backstage License Metering System, a usage meter for software. It promises to provide a way to control license dispensing by distributors. It consists of a software library, a hardware device called a meter connecting to a serial or parallel port and a meter daemon. It integrates with Globetrotter's FLEXIm network licensing technology reported to be used with 60% of the Unix software worldwide. Sallie Calhoun, formerly Globetrotter's operations director, is now its president. +1 408 255 5616

IBM TO TIE E-SYSTEMS' ROBITIC EMASS TO RS/6000

As well as offering its 3495 robotic tape storage system, IBM Corp has picked up an even bigger device for the open systems market, doing a deal with the Storage Systems Solutions arm of E-Systems Inc, Dallas for its Emass mass storage system, which is able to store up to 10 Petabytes - 10,000 Terabytes. It is IBM's Dallas-based Technology Consulting & Services - North America group, also in Dallas, that has done the deal. The collaboration will connect IBM's RS/6000 to the E-Systems Emass system to create a combination capable of delivering up to 10Pb of data to engineering, scientific and other commercial users of massive amounts of data, at the price performance of a workstation. Emass is a 19mm helical scan tape device developed with help from Ampex Corp, Redwood, California, and it requires just six tape cassettes to store 1Tb. The four-arm Emass robot was developed with Odetics Corp, Anaheim, California. Emass starts at \$685,000.

HEWLETT, CONVEX, ILLINOIS TEAM ON METACOMPUTER EFFORT

Hewlett-Packard Co has stepped up its Precision Architecture RISC alliance with Convex Computer Corp, announcing a partnership with the Richardson, Texas minisupercomputer builder and the US National Center for Supercomputing Applications built on a cluster of its workstations and a Convex supercomputer. The cluster, installed at the University of Illinois at Urbana - Champaign centre, will be used by researchers for scalable application development. The workstations will also be used in the research and development of distributed computing environments, distributed and parallel, and multimedia applications. Hewlett is putting up over \$1m of equipment including 18 desktop and desktop HP Apollo 9000 Series 700 workstations and multimedia software. The cluster will be tightly integrated with a Convex C3880 supercomputer creating a Meta Series using a high-performance interconnect and Convex software to generate the highest levels of application throughput. The cluster is a major component of the centre's metacomputer, a collection of supercomputers, workstations, data storage and advanced imaging resources and is intended to spur efforts to build a scalable metacomputer based on RISC technologies. The National Center for Supercomputing Applications and the other three National Science Foundation centres - Cornell Theory Center, Pittsburgh Supercomputing Center and San Diego Supercomputer Center - are extending the metacomputer concept to the National MetaCenter, a synthesis of the intellectual and computing resources of the four.

VISUAL HAS NEW LIBRARIES FOR PV WAVE 4.2

Houston, Texas-based Visual Numerics Inc has introduced PV-Wave Advantage 4.2, an enhanced version of its graphics visual data analysis software which includes a set of C and Fortran programming libraries, for Microsoft Corp's Windows NT and Unix. It also announced support for third party graphics software and relational databases. The existing version PV-Wave is designed to display visually statistical and complex data via multi-dimensional graphics and tables. The new libraries will allow programmers to write ready-made sub-routines into PV-Wave-based applications without re-coding the whole thing. The C libraries called C/Math/Library and C/Stat/Library are designed for Unix and NT users. C/Math includes more than 150 callable maths functions such as transforms, equations, optimisation, interpolation, Eigen-system analysis and Quadrature. The C/Stat/Library has over 70 callable routines including analysis of variance, correlation, registration and time series and forecasting. The Fortran libraries are configured for minisupercomputers, which provide programmers with more than 900 mathematical and statistical sub-routines. Visual Numerics has also added support for Maple Software Inc's Maple 2.0, a graphical mathematical package that solves equations visually. Support for other third party products will follow later this year, the firm says. Gateways to Oracle and Sybase databases will be supported via Microsoft Corp's ODBC specification. PV-Wave Advantage 4.2 is available from June 30 on Hewlett-Packard Co, Sun Microsystems Inc, DEC Alpha and IBM Unix platforms. A Windows NT version will ship in August. Prices start from £5,000 depending upon platform. Both libraries can be purchased as separate modules for £2,500.

MEJIN 3.0 COMES WITH NEW C++ LIBRARIES

Object software developer Network Integrated Services Inc, Menlo Park, California, has introduced Mejin++ 3.0, a set C++ class libraries designed for numerical-based modelling and simulation applications. C++ classes include statistics, probability, optimisation, equation solving, digital signal processing, time series analysis and linear algebra. Mejin 3.0 is targeted at the health, financial and manufacturing markets. Available now on Sun Microsystems Inc, Hewlett-Packard Co and IBM platforms, it is priced at \$2,000 - £1,200. Mejin is distributed in Europe by Hypersoft Europe.

ICL CANS ITS COSMOS REPOSITORY...

ICL Plc has binned plans to develop Cosmos, a LAN-based Unix repository for CASE tools, because the project was "too risky". The four year old project was supposed to produce a Unix version of DDS - its mainframe VME-based data dictionary - but the lack of open and de facto standards for CASE technology and an unproven market for a product made a continuing investment unjustifiable, ICL says. The firm also took into account other company's attempts at the technology, particularly IBM's disaster with AD/Cycle (UX No 433). Graham Taylor, ICL's software business development manager, says "Cosmos sapped a lot of capital and we weren't that close to a final product anyway - besides which the company can't ignore IBM's AD/Cycle nightmare - so we canned it." There are no current plans to salvage Cosmos. ICL is now telling users to implement low level solutions from companies such as Softlab GmbH and Westmount Technologies Inc until it finds a replacement. In the meantime, ICL plans to enhance its VME repository by adding support for other third party tools and improving its data exchange file format technology. It also intends to port DDS to other mainframe platforms, including IBM MVS machines.

...SETTLES ON OBJECTIVITY DATABASE

After reviewing the runners and riders in the object stakes, ICL Plc has decided to put its money on Menlo Park, California-based Objectivity Inc and its Objectivity/DB. ICL will be using the object database for its DELTA Project, a corporate quality system to be used worldwide by ICL and its customers.

STRATUS TO ADD HIGH AVAILABILITY LINE, WILL MAKE SOFTWARE ACQUISITIONS

There are simply not enough people prepared to pay the premium required for fault-tolerant computers, so Stratus Computer Inc is laying plans to broaden its product offerings beyond its Continuous Processing Systems, moving into the market for high availability systems that can go down once in a while. It also says it plans to put more emphasis on software and services, and, taking advantage of a strong cash position, is on the look-out for software companies to acquire. Stratus is taking pains to present these strategic moves as an expansion of its business, not a restructuring, Dow Jones & Co reports. The biggest market for fault-tolerant systems has been the financial community, but that market went ex-growth some time ago, and the other main growth area is seen as telecommunications, but here, too, there are fears that phone companies may begin to duplicate or triplicate cheaper commodity computer systems.

PUSH FOR OBJECT-ORIENTED COBOL TAKES STRIDE FORWARD

The drive towards object-oriented Cobol has taken a step closer to becoming reality as the result of a decision by the X3J4 Technical Committee for Cobol standardisation. Following three days of presentation and debate of the object-oriented features in a Technical Report presented in March, the committee of 14 corporate members decided these should be part of the earliest possible revision to the Cobol Standard - that won't be before 1997. The features include instantiation through a class definition, invocation of objects using a messaging protocol, class inheritance, polymorphism, static and dynamic binding, use of object interfaces to separate definitions from implementations, and interface checking (with the ability to disable it for rapid prototyping). Raymond Obin of Micro Focus Plc has agreed to write a proposal by September for detailed changes to Cobol to enable the object-oriented features now agreed upon.

NOVELL SEEKS CENTERLINE AS ALLY - MINORITY STAKE "ON THE TABLE"...

Novell Inc and CenterLine Software Inc have been talking since at least the beginning of the year, possibly earlier, about a potentially strategic relationship. Often a relationship of that kind turns into a minority investment opportunity for Novell. It is believed such an opportunity has been put on the table. The companies are thought to be sorting through their various options as far as synergy goes. CenterLine, with its C++ ObjectCenter and C-based CodeCenter development environments, is anxious to be associated with a systems software house that might offer its tool sets with its operating systems. In Novell's case that could be both Unix and NetWare. Novell on the other hand must buttress its position for the long war with Microsoft Corp and later Taligent Inc. CenterLine might help it both in the short- and mid-term with application development.

...ORACLE 7 MODULE FOR NETWARE 4.0

Meanwhile, the agreement between Novell Inc and Oracle Corp, to be announced in the middle of the month (UX No 438), will see the two companies bundling a NetWare Loadable Module version of Oracle7 with NetWare 4.0 with the resulting combination to be marketed by both companies, *US PC Week* reckons. The paper suggests the alliance signals a desire on both companies' parts to deliver a competitive blow to Microsoft Corp's Windows NT and SQL Server for NT database server, which is based on Sybase. The two will adapt their products for better integration, with NetWare 4.0 being reconfigured to support transaction processing journalling more effectively across multiple distributed databases in a network, and Oracle Server will gain direct access to NetWare print, file and other services. The deal makes good on a threat by Oracle chief Larry Ellison after Microsoft refused to bundle Oracle database server with NT.

ORACLE UK TEAMS WITH SELECT SOFTWARE FOR SSADM TOOLS

Oracle UK Ltd has introduced Oracle CASE for SSADM (Structured Systems Analysis and Design Methodology), an application development tool based on the UK government standard for CASE. The product is designed around Cheltenham, Gloucestershire-based Select Software Tools Ltd's SSADM Professional software, and supports the nine most common SSADM information gathering techniques. These include a central repository, which stores designs and applications; design and analysis techniques including effect correspondence diagrams, function definitions and I/O structures; and method checking rules such as diagram editors and error and warning signals. Oracle CASE for SSADM is part of the firm's Co-operative Development Environment launched in February (UX No 423), and will allow users to create or make existing applications compliant with the standard. The software is available now - no prices were given.

USL SETS TUXEDO BRANDING SCHEME

Unix Systems Laboratories has set up a conformance and branding programme for Tuxedo, its transaction processing monitor. Tuxedo OEMs, including DEC, Amdahl Corp, Groupe Bull, Fujitsu Ltd, Data General Corp, ICL Plc, Kendall Research Inc, Ing Olivetti & Co SpA, Pyramid Technology Corp, Sequent Computer Systems Corp and Unisys Corp have already signed up for the scheme and compliant products are expected to roll-out in August. In addition, USL has also established a Unix Solutions Programme for VARS, independent software vendors and systems integrators specialising in client/server. USL will provide technical consultancy for porting products to its suite of tools, partnering on technology developments and sales and marketing support. Partners will also receive discounts on reseller agreements.

RAY NOORDA: THE MAN WHO WILL BE UNIX KING

The acquisition of Unix Systems Laboratories by Novell Inc will be complete on June 14. The future of Unix lies in the hands of 69-year-old Novell chief executive officer Ray Noorda, a man who possesses a management style markedly different from the competition and who engenders a corporate culture that exists nowhere else in the industry. *Geof Wheelwright reports.*

To understand what makes Noorda tick - and just how that reflects on the way he manages Novell - you have to look at where he came from. To start with, he isn't a product of any Ivy League college or a guy who discovered some "cool software" while tinkering away with minicomputers in the late 1970s. Noorda is one of the few personal computer software company founders to have been in World War II - and to have survived more than two decades in one of corporate America's technological monoliths (in his case, General Electric). Both these experiences appear to give Noorda something of a perspective on life that he might not otherwise have. Noorda has been in the computer business, one way or another, since 1949. He was there when it all started and, as an electrical engineer, worked on some of the world's earliest commercial systems at GE.

Pragmatism

His perspective combines pragmatism with a keen understanding of human nature and an apparent desire to continually prove the idea that the computer industry can be more than the sum of its parts. Noorda's support for evolving "co-opetition", where competitors form strategic alliances to achieve goals that are in the interests of users and computer companies alike, has played a key role in Novell's success and makes him the only successor to the Unix crown that the industry will accept. "Networking in the PC business is not like the mainframe business or the minicomputer business - each in their own way had their own networking skills and they were fairly well-enclosed," he recalls, as he reveals the starting point to his brand of co-opetition. "But because the PC was destined to become a ubiquitous item and was based on a common set of technologies, it was quite clear networking in that environment was going to have to be inclusive of many other businesses - including mainframes and minicomputer systems and lots of different software suppliers. We feel that he who will co-operate the most will be the longer term survivor."

Hike

This co-operative strategy is not limited to Noorda's handling of industry alliances. He says he has always believed it to be a better way of managing people who work for you. A visit to the company's headquarters confirms this fact - there is no huge tower with a CEO's penthouse office, no army of corporate "minders" preventing access to the man who runs the company and, perhaps most of all, no huge difference in the salary Noorda pays himself and what he pays his employees. If anything, Noorda is likely to come off as the poor relation in any comparison between salaries. Until last year, he took a salary of only \$38,000 a year - between one tenth and one twentieth of the amount taken home by most CEOs of similar-sized corporations. Noorda says that the board "forced" him to take a salary hike to \$198,000 after some Wall Street analysts started suggesting that Noorda's commitment to the publicly-quoted almost \$1 billion company might appear to be in doubt if he drew so little money from it. Noorda's reasons for not wanting a big salary, however, are hardly altruistic.

As someone who still holds 11 per cent of Novell stock, Noorda says that it make little sense to pay himself money he didn't need when it could be used more profitably to hire people that he did need. He initially took the pay cut (from a modest \$100,000) in the mid-1980s when two of his sons came to work for Novell - and kept it at that level until 1992.

Style

Noorda's approach to business meetings also illustrates the style you can expect from him. He hates meeting with people in his office - which is just a modest room on the ground floor of Novell's headquarters building and prefers instead to have clients meet with the company at hotels, while internal company meetings take place in meeting rooms and other people's offices. So for Novell employees, it is rare that they sit sweaty-palmed in the waiting room of the mega-boss before a meeting - Noorda comes to them. He also recognises that this corporate culture will take some getting used-to for USL employees joining the Novell family this month. "We are still in the process of acclimatising each of us to our different environments," he admits. "They (USL employees) are coming out of a very large company - and have the mentalities which go with that. And that isn't bad, but it is different. We are making sure there is a "comfort zone" as they move from one environment to the other. And it takes a long time - it doesn't happen overnight."

Abortive

Noorda also recognises that there are opportunities for mergers that, unlike the USL deal, just won't work. One of the best-known of these is Novell and Lotus Development's abortive attempt to join forces. "That took place because I was quite aware of what Microsoft's intentions were in tying together a lot of their products. This would have made it difficult for a lot of the other horizontal applications people in the word-processing and spreadsheets business to compete in those businesses," he explains. "So I went first to WordPerfect and then to Lotus and said: why don't we form a marketing alliance and try to exploit the fact that we are leaders in our own environments? Out of those discussions came the merger discussion - and that didn't work basically because our board felt there were some cultural, and probably some organisational and geographically differences, that wouldn't line up very well. Some conditions were placed on the merger that we really couldn't accept."

With the benefit of hindsight, it is probably just as well. At the time, Novell and Lotus were both \$500 million companies - and now Novell is a \$933 million company and second only to Microsoft in the PC software company arena, while Lotus Development has had a rough ride in the past couple of years. If there were any talk today of a Novell/Lotus tie-up, it would be of a buyout by the former of the latter. So while Noorda makes it clear that he wants to win by creating "win-win" situations, he has enough maturity and experience to admit that they don't always work.

COSE IS THE CATALYST TO ACCELERATE OPEN SYSTEMS PROCESSES, SAYS WHITE PAPER

By William Fellows

At this week's Xhibition in San Jose, California, the Common Open Software Environment firms - Hewlett-Packard Co, IBM Corp, Santa Cruz Operation Inc, Sun Microsystems Inc, Univel Inc and Unix System Labs (and probably Digital Equipment Corp too by then) - will present COSE's raison d'etre to the world in the form of a white paper prepared by USL's Andy Nagle. It describes - at great length but with little substance - how the firms will attempt to accelerate the open systems process. In a nutshell the white paper proposes that vendors get together and agree on common specifications and behaviour, application programming interfaces and test suites for various technologies before taking them forward as recommendations to industry standards bodies like X/Open Co and the Object Management Group for ratification, branding and certification.

The paper describes a new layer of informal processes that'll be used to achieve these goals. The aim is to cut out the time-consuming lobbying - or squabbling - that currently takes place within the standards bodies and do the shouting at private gatherings of vendors. Nagle, unfortunate fall guy for the white paper, says it'll ensure that debate in the standards bodies will be about the specifications themselves, rather than inter-company feuding over stuff like feature sets. This will allow standards bodies to review and ratify specifications more quickly and hopefully reduce the time to market for implementations. Nagle says the COSE process is needed because existing standards bodies can't keep up with the pace of technology development. COSE says its process will allow independent software vendors to focus their development resources on need rather than the platforms and look and feels they must target, as well as providing an expanded market for them to aim at. It will reduce costs and benefit users by reducing fragmentation, the paper argues. COSE envisages branded software that is plug and play compatible between vendors. It will demand detailed written specifications that govern its correct behaviour and says customers should not have to go to a particular supplier to get a full implementation of it - that it should be available from more than one vendor. Here COSE cites OSF/Motif and Novell Inc NetWare Unix client as examples, both now freely available X/Open specifications in their own right, and currently being implemented by a range of suppliers. COSE plans a different brand for each specification, but says there is no plan to brand for a complete environment.

Ad hoc

Describing its role as a "catalyst" to existing open systems processes, COSE proposes no new organisations and says existing Unix International, Open Software Foundation, X/Open and Posix technology request procedures and working groups should be retained. Although COSE reminds us that it is "neither an initiative nor a group nor a club nor a consortium," it wants ad hoc COSE working groups - formed from "major industry interest groups" - to prepare formal specifications based upon agreed recommendations resulting from what it calls "common directions." The white paper would have us believe that end users demanding more commonality between different implementations of the same technology will drive suppliers and ISVs toward a single technology direction. Such an impetus will become a general, or common direction, when it is supported by a sufficient number of vendors. "Leadership of a common direction can come from any quarter, often initially through private meetings of a few vendors. A direction becomes a general direction only with an ample following made evident through public endorsements, and eventually through votes that formalise a specification." A common direction could be one in which vendors combine existing technology and write a new specification - like the proposed common desktop environment; endorse a de facto standard - like Motif; or set up a work group to write a draft specification of a common set of application programming interfaces.

...BUT BETWEEN THE LINES

The rambling case which COSE presents in the white paper identifies some of the problems which may ultimately lead to its curtailment (see also front page). Whilst COSE must steer clear of US anti-trust laws for obvious reasons, it desperately needs the marketing collateral of a club, a group, a consortium or an initiative behind it. As long as it can't market itself then it will always lack teeth, detail, usability and clarity - all the things missing from this confusing white paper. On the other hand it must maintain consensus and a complex system of cross-checking between participating firms - content of much of the subtext of the white paper. COSE already has the difficult job of trying to explain and justify a new set of industry forces, processes and alignments that for all intents and purposes do not exist.

Frozen

Because of these problems, some insiders argue that COSE shouldn't have bothered with the white paper. They say the market has been almost frozen in anticipation of the common desktop environment and that COSE should have concentrated on getting the specification out. Some are also concerned that the drive to standardise will lead COSE firms further and further up the technology path and scare off software companies that are or could be developing innovative technologies in the same sectors.

Teach

Moreover, doesn't it seem strange that the Unix vendors should be trying to teach the rest of the world a thing or two about about open processes? At Uniforum meetings and other conferences and gatherings not so long ago, users were pleading for a common Unix kernel. Their pleas fell on deaf ears. Now, some years later, the prospect of those very same users being wooed to a new rival, Windows NT, is forcing those same hard-of-hearing Unix suppliers to offer up a half-baked common front-end patched together by an organisation that doesn't exist. The white paper could almost be taken as description of the process by which a handful of Unix vendors might steamroller their preferred technologies through the standards bodies.

DEC DUE ON BOARD THIS WEEK

Perhaps some of the blame for the white paper can be laid at the feet of Digital Equipment Corp. It said it wanted documentation and pieces of paper describing the COSE process before it would decide whether to commit itself and some of its technologies, to the effort. DEC's participation was expected to have been confirmed last week but executives were still meeting to discuss the implications of white paper as we went to press. The firm says it wants to fully "understand COSE and the movement behind it... figure out what impact COSE will have on customers and whether it requires a change of strategy or products." The likely answers are none, no and no, according to one source, who says COSE's emphasis on "openness" and "commonness" fits nicely with DEC's own thinking. Other insiders say DEC is more interested in staying up with the standards game and less concerned with COSE's technology specifications. DEC's support for COSE is likely to be announced today (Monday).

JAPANESE NEWS ROUNDUP

By Anita Byrnes

KEY UNIX PLAYERS UNITE TO AGREE JAPANESE STANDARDS FOR INTEL

iAPX-86-BASED DESKTOP UNIX

Japanese companies last week officially announced DICOP, the new System V.4.2 Unix-on-Intel Japanese specification definition group. Companies that have formally committed to join DICOP, which stands for Desktop Unix for Intel CPU Co-operation Promotion Group, include hardware vendors NEC Corp, Sony Corp, Nippon Unisys, Nippon Olivetti, Mitsubishi Electric Corp, and Seiko Epson Co; software vendors Ashisuto KK, Novell KK, Ascii Corp and Univel Inc have joined, along with Unix System Laboratories Pacific. Other companies have been approached and are expected to join shortly, according to the newly appointed management group, comprising executives from Nippon Unisys and Unix Labs Pacific. DICOP's purpose is to create a common Japanese binary specification for the software that sits between a generic or Intel application programming interface and the application software. The specification is to be common with the OCOMP-API defined by the Open Computing interface for Mips Platform group led by NEC and Sony, providing Japanese application software developers with the prospect of a common source code for R-series RISC and Intel-based Unix applications. The first DICOP specification, which is currently being printed, encompasses specifications for Japanese character sets and character codes, graphical user interfaces - Motif, common print formats - PostScript and CDIF, Japanese common libraries for conversion of EUCcode, JIS and Shift JIS, font access libraries and common CD-ROM access libraries are part of the hardware. Software companies that indicated that they will support the new standard are Ashisuto, which will release compliant products in the autumn - including the most popular business spreadsheet for the Unix system - Ashisuto-Calc, and Unisol Inc, which claims to be the only Japanese company that makes its living solely from Unix software, and whose products include Island Paint, Write and Graph. A manager from ASCII, Kay Nishi's company, said uncharacteristically that it would adopt a cautious attitude and wait to see what the adoption rate would be. A test suite for branding is under consideration. Personal computer Unix - either of the System V.4.2 or Solaris variety - has yet to hit Japan, except in the limited numbers of copies of Santa Cruz Operation Inc Unix, which is sold mainly to research institutes, and the recent popularity of an operating system called Panics, localised by AI Soft Ltd and sold for \$4,055 for the NEC PC-9800 series. Unix Labs Pacific executive, and vice-chairman of DICOP, Makoto Aso, sees the real distribution action happening from this summer. The Common Open Software Environment Japan Special Interest group, which is rumoured to include NEC, Fujitsu Ltd and Toshiba Corp as well as Sun Microsystems Inc, IBM Japan Ltd and Yokogawa Hewlett-Packard Co, is also expected to make an announcement soon.

SOFTWARE AG ADOPTS NEURON DATA GUI BUILDER

Neuron Data Japan has scored a hit with Software AG of the Far East, the vendor of the graphical user interface tool Neuron Data Open Interface. Software AG has signed a value-added reseller agreement with Neuron Data to link Open Interface with the Adabas database via the Natural language. Neuron Data Japan started selling its products in Japan in May 1991 and has already sold 230 of its developers version. Darmstadt-headquartered Software AG, which to date has sold mainly mainframe products, has a Unix client-server version of Adabas, but appears to feel it needs a tool to increase ease-of-use on the client side.

FUJITSU ADDS SUNS NEW HIGH-END SPARC SYSTEMS TO ITS PRODUCT LINE

Fujitsu Ltd has launched Sun Microsystems Inc's 50MHz SuperSparc-based S-4/10 series of desktop machines, ranging from the Model 40 through to the Model 512, and the S-4/2000 high-end server (Sparccenter 2000) in Japan. It also has a power control box, the F7791PW, and a board for monitoring system abnormalities, the F7795RA. Japanese prices go from \$29,185 to \$231,670 for a S-4/2000 server.

CONCERN AS MONOLINGUAL AUSTRALIAN TAKES OVER AT UNIX INTERNATIONAL

At a news conference last month, press and Unix International Inc supporters expressed some concern about the resignation on April 25 of Yumio Imamura, the representative of Unix International Asia-Pacific, and his replacement by Colin Fulton, the Australian ex-NCR Corp man who is currently head of Unix International's Pacific Basin office based in Singapore office (UX No 438). The resignation of Imamura-san, who has served four years in his current post, and who was well known and well-liked in the industry, enrolling several tens of Japanese systems vendors and software houses as Unix International members, came as a shock to some members and the press when rumoured in April. Pressed about his reasons, Imamura-san cited health concerns - surgery on throat polyps and liver problems - but it was clear that there have also been disagreements with Peter Cunningham of Unix International. Imamura-san defended himself against apparent criticism from Cunningham over his ability to explain technical issues. Colin Fulton, who will remain resident in Singapore, but, he says, spending most of his time on Unix International Asia-Pacific issues, valiantly responded to some of the criticisms - which included suggestions that Unix International members might feel slighted that a non-Japanese, with no Japanese language skills, was to head a branch of Unix International that made significant financial contributions to the organisation. Unix International supporters at the press conference - including Fujitsu Ltd, NEC Corp, Nippon Unisys Co, Nippon NCR, and SunSoft Inc - vowed that language barriers would not be an obstacle to communication, and that their support would continue as before, including the work group on Japanese language standardisation.

Ongoing relevance

Questioned about the ongoing relevance of Unix International, these members reaffirmed their belief that the supporters' club still had a reason for existence, and that "non-organisations" such as the Common Open Software Environment could not hope to take Unix International's place. Unix International Asia Pacific appears to be facing an internal crisis as questions are raised within and without about its future. The Open Software Foundation has also recently undergone a change of management in Japan. Dr Rob Morel, formerly with Philips Electronics NV, and managing director of the Open Software Foundation in Japan for the last four years, has returned to his native Holland, to start a new career, initially as a lobbyist. He is replaced by Jim Curtin, who joined the Foundation a year ago from Nippon DEC's research laboratory.

CONSUMER ELECTRONICS MAJORS RESIST KALEIDA'S BLANDISHMENTS

Executives from Kaleida Laboratories, the IBM Corp-Apple Computer Inc joint venture to develop multimedia products for computers, consumer electronics and communications industries, were in Japan last week to announce the formation of a hardware manufacturers alliance to support ScriptX, Kaleida's newly developed standard for cross-system multimedia development and playback.

The founding members of the alliance include Hitachi Ltd, Toshiba Corp, Mitsubishi Electric Corp and Creative Technology Ltd of Singapore. These "early adopters" will receive priority access to Kaleida's technology and support services for a three-year period. While Nat Goldhaber, president and chief executive of Kaleida, was reluctant to give details of how much these companies paid to join the Alliance he said it was considerably less than the several million dollars rumoured elsewhere. Other European and several US companies were invited and are expected to join the club too. However it is obvious that the hearts and minds of the major Japanese consumer electronics companies such as Sony Corp and Matsushita Electric Industrial Co have yet to be captured. Goldhaber admitted that Kaleida still had a few technical issues to resolve - such as what compression technology would emerge as the standard, whether Microsoft Corp was developing any product which would be competitive - he thought not, and what exactly would be the "killer application" for multimedia technology. Large scale release of hardware product and multimedia titles are expected in time for Christmas 1994.

UNIX DATABASES CONTINUE STRONG GROWTH IN EUROPE, SAYS IDC

The European Unix database market has grown 42% since 1991 and is now worth \$288m, according to market research firm IDC. The four largest database suppliers including Oracle Corp, Sybase Inc, Informix Software Inc and ASK/Ingres have all experienced growth rates of more than 20% - with Sybase leading the way with increases of 70% plus. But this has not improved Sybase's ranking as the fourth largest vendor. Ingres, third in the league table, showed growth rates of 45%. Informix improved sales by 45% and managed to increase its market share to 16.7% by restructuring its value added reseller channels. Oracle is still market leader in Europe, but its growth rate has decreased by 5% to 50% - its market share is now 46.5%. ASK/Ingres has 14.6% of the market, Sybase 5.9%, Progress 3.8%, Unify Corp 2.4%, Empress 1.4% and other smaller vendors make up 8.7%.

LONDON PARALLEL APPLICATIONS CENTRE PUTS ITS MASPAR TO THE TEST ON OPTIONS PRICING

Fiendishly clever computer trading of financial instruments using hideously complex algorithms is all the rage on Wall Street and increasingly in Tokyo, and now researchers at the London Parallel Applications Centre, based at London's Queen Mary & Westfield College, are developing special library tools for financial modelling with the support of Digital Equipment Co Ltd and Oxford mathematical library supplier Numerical Algorithms Group Ltd, or NAG. Their two-year project initially involves the implementation of software on a massively parallel Single Instruction, Multiple Data system, with a view to converting it for Multiple Instruction, Multiple Data systems at a later date. The finished result will be a Fortran-90 mathematical library tool that NAG will likely market and that it is hoped will encourage the use of parallel machines in non-linear programming such as scheduling, planning and optimisation. A version of the software will also be developed in parallel C++. After consulting with financial experts in the City of London, the researchers, who are from University College London, Queen Mary & Westfield College, Imperial College and City University, have decided to take options pricing as a starting point for their project. This can then be extended to more complicated options such as Asian options and conditions, baskets of options and eventually portfolio evaluation and hedging. The researchers will first develop demonstration programs to show which routines are required and how they will interact. It is expected that the first demonstration will compute the exercise boundary of US options with continuously paid dividends and will be tested using a simulated data feed. The project will use the Centre's recently delivered DECmpp 12000Sx massively parallel computer - from Maspar Computer Corp marketed by DEC - which has 8,192 CPUs. And it is hoped work will continue after the initial two years, perhaps with support from the business community nearby.

HITACHI BUYS A LICENCE TO HP OPENVIEW

Hewlett-Packard Co is fast becoming a major source of system software to the rest of the industry, and following Fujitsu Ltd's licensing of its SoftBench framework, Precision RISC Organisation member Hitachi Ltd has licensed its OpenView network and systems management software, planning to make it the basis of its NETM Comet network management product family. IBM Corp and Compagnie des Machines Bull SA are already licensees of OpenView, and the product is a component of the Open Software Foundation's Distributed Management Environment.

JAPAN COMPUTER BRINGS NEW XQ X-TERMINALS TO THE US

Japan Computer Corp, which has its US base in Fort Lee, New Jersey, has unveiled a new line of RISC-based X terminals - the company uses the MIPS Technologies Inc RISC family - which it says are designed to assist multinational companies in moving towards client-server working. The RISC architecture and proprietary ASICs in the new XQ line are claimed to improve network use and reduce per-user costs, and the company has a single multi-system server tape for all major world languages to add to administrative convenience. The new terminals are priced at from \$1,500 but the company is enabling resellers to configure the terminals for their niche markets by offering a range of optional features, including monitors.

NEWS ROUNDUP

Sick of all those lawsuits from Intel, Advanced Micro Devices Inc is starting to talk about plans to move away from simply cloning Intel CPUs, and says it will use its experience with the AMD 29000 RISC chip to create a hybrid RISC/CISC with x86-compatible logic wrapped around a RISC core. "The current x86 architecture is running out of gas", AMD's Mike Johnson, director of advanced processor engineering, told *Computer Reseller News*. Product will be on the market by 1995, he said.

The likelihood of a 64-bit version of Intel Corp's 80860 processor ever coming onto the market has receded even further with the news that Intel's own supercomputer division is to market a Pentium-based massively parallel processor from an as yet unidentified OEM partner. The news confirms earlier rumours that the 64-bit P67 was to be positioned as the incompatible successor the the 80860 (UX No 422).

Symantec Corp, Cupertino, California, which has just launched a C++ development package for the Macintosh, is working with Apple Computer Inc on a development framework for Apple's forthcoming PowerPC systems that will allow cross platform application development between the two lines.

Your Ford could have the Motorola/IBM/Apple PowerPC chip as its engine controller by 1997, according to Ford Motor Co's Jim Buczkowski (UX No 437).

NCR Corp is ready with a new set of client-server workflow tools called ProcessIT, to run on NCR 3000 Servers and Microsoft Windows-based clients. It runs on top of the Informix database. Other platforms will be supported in the future.

Integrated Computer Solutions Inc, Cambridge, Massachusetts, has launched OSF/Motif Version 1.2.2 for users of SunSoft's Solaris 2.2 operating system, with a single user price of \$450. ICS also has Motif for OpenWindows Integration to integrate Open Look applications within Motif.

And at Xhibition this week in San Jose, California, ICS will introduce version 3.0 of its Builder Xcessory graphical user interface builder: it integrates C++ programming with OSF/Motif 1.2, internationalisation and features for the management of large user interface projects. For Solaris and Silicon Graphics platforms, price is \$3,200. IBM, HP, DEC, SCO and UnixWare versions will follow.

Gilbert Williamson, former CEO of NCR Corp, and Dr Robert McClure, founder and president of compiler expert Unidot Inc, have been named to the board of the Santa Cruz Operation Inc.

Gresham Telecomputing plc's transaction processing monitor, TP+, now supports ICL, Hewlett-Packard Co and DEC Alpha Unix platforms. +44 489 582111.

IMI plc subsidiary Uniplex Ltd has added support for ICL Unix platforms for OnGo, its office automation software.

Locus Computing Europe has signed up UK distributor Torchraven Ltd to market and support PC-Interface, its MS-DOS, Mac and Netware connectivity software.

Excalibur Technologies Ltd, Windsor, Berkshire has signed a UK distribution agreement with Morse Group Plc for it to sell and support Excalibur's PixTex/EFS document image processing software.

Menlo Park, California-based, Informix Software Inc's relational database products will support Apple Computer Inc's AU/X 3.0.1 by the end of the year.

Sybase Inc says it'll have System 10 products running on Santa Cruz Operation Unix by the first quarter of next year.

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The UK computer trade press went up in arms last week about **Microsoft Corp's** plans to charge for the support of its Windows NT operating system. In the UK, buyers get only 30 days free telephone support for desktop NT, and will then have to fork out a minimum of £3,000 a year. The Advanced Server edition gets no free support, costing up to £10,000 for support from Microsoft. DEC says it will extend the 30 days free period to a year for Alpha versions of NT, and third parties are likely to take up the baton from Microsoft, which admits it doesn't have the necessary core competencies.

At the Xhibition event this week, **IXI Ltd** will be demonstrating a COSE desktop look and feel version of its X.desktop graphical desktop manager.

Sun Microsystems UK says it spent over £120,000 exhibiting at London's Solutions with Workstations show last month and received "little or no benefit": it is asking for a refund of £83,000 on the basis that only 2,300 of an expected 7,000 attendees turned up at the three day event. In its defence, show organisers **EMAP Exhibitions** says the attendance was comparable with last year's Sun Expo in Birmingham, and that vendors' expectations were perhaps too high for a launch event. It plans a promotional workstation directory and will make available lists of attendees to appease angry exhibitors.

Data General UK Ltd and ICL-owned **Technology Plc** have dissolved their distribution agreement for Technology to sell DG's AViiON Unix machines, just six months after the deal was signed. The two claim the decision to split was mutual. DG stepped into the deal at the last minute, after Technology was fired by DEC amid fears that its customers would be filched by the distributor (UX No 420). But DEC and Technology patched up their differences in April (UX No 431). Meanwhile, DG is expected to finally introduce its second-generation Motorola Inc 88110-based AviiON machines this month.

Hewlett-Packard Co is now offering support for Sun Microsystems Inc workstations and says it has won an initial contract, covering 120 systems, at oil industry supplier Exlog.

Microport Inc's System V.4 now supports **Corollary Inc's** multiprocessor and XM multiprocessor hardware designs, making it the first independent software vendor to provide a shrinkwrapped multiprocessing version of Unix SVR4.

Sunnyvale, California-based **ParcPlace Systems Inc** says its VisualWorks object-oriented application development environment is now available for SunSoft Inc Solaris and IBM's OS/2 2.0, priced at \$5,000 and \$3,000 respectively. +1 408 773 7428

Segue Software Inc has announced its graphical user interface test tool QA Partner on Windows, Mac and Unix/Motif platforms claiming it's the first tool to support test automation of GUI applications on multiple GUI platforms. Its been used at **Adobe Systems Inc**, **DEC**, **Lotus Development Corp**, **Progress Software Corp** and **Symantec Corp**.

Data Concepts Inc has given DEC VXT 2000 colour X Windows terminals touchscreen capabilities with Touchplus, an integrated hardware and software solution that DEC will reference. Pricing starts at \$2,500 for quantities 1-9. +1 615 329 3806

Highland Software Inc, Palo Alto, California, has cut a deal with **Sybase Inc** giving it the right to develop, market, enhance and maintain Sybase's recently acquired Gain Exposure software demonstration technology. It will sell it under its own name as Highland Xrecorder for \$3,500 for the first platform with discounts on successive platforms. Support is available for Sparc, IBM and HP 700s

Apple Computer Inc says AppleTalk, its Macintosh network operating system, will support X/Open's XTI transport-independent application programming interface by October. XTI support for Apple's TCP/IP stack is expected by year end and for Novell Inc's IPX and DECnet after that.

The ASK Group has introduced release 2 of its Manman/X manufacturing system: the new version includes support for the Oracle Corp database, Hewlett-Packard Co's MPE/ix and Digital Equipment Corp's OpenVMS and OSF/1 operating systems. Prices start at \$25,000 for an 8-user system.

Borland International has carved out a new Client/Server Division that will house the InterBase server among other things. Senior vice president Rob Dickenson will head the new unit.

When it eventually appears, Spring, **Sun-Labs'** next-generation object-oriented operating system will run Unix - and other operating systems - plus applications and messaging services as objects. Spring, which started life as a joint Sun Microsystems Inc/AT&T Co project back in 1988, is built on a microkernel architecture and will be licenced to third party software houses so they can build their own Unix-compliant operating systems. All interfaces amongst the services are object-oriented and use the Interface Definition Language, which has gone on to become an Object Management Group standard.

Sunnyvale, California-based, **ParcPlace Systems Inc** is going to turn up at Xhibition this week with a thousand free copies of its \$3,000 software ported to Linux, a free non-commercial version of Unix that could have as many as 250,000 users at home and in schools on Intel machines. It is hoping that using its Object Builder software, the GUI builder for C++ and object interface library, on Linux will create sales in commercial environments.

The industry is losing one heckuva Unix watcher: vice president, research **John Levinson** is leaving his post at **Goldman, Sachs** in New York and moving over to the buy side at an investment management firm **Lynch & Mayer** as manager of very hefty portfolios.

Sun Microsystems Inc is having some fun with NeXT Computer Inc offering a trade-in of NeXT hardware for a Sparcstation 10.

It seems somebody has pinched the machines **Microsoft Corp** was using to demo NT at Uniform. **Mayflower**, the big shipping company, thinks that a "lost" Microsoft palette consisting of 10 **NEC Corp** machines and one small box may have been picked up by mistake at the Show and sent to some storage facility where nobody has checked the inventory yet. If anyone knows anything, please call +1 206 828-7477 and ask for **Betsy Rogers** before she calls the insurance company and reports a theft.

See we told you **Sun Microsystems Inc** CEO **Scott McNealy** was going to give up his post as president of SMCC, the company's hardware arm (UX No 433). Sun's chief financial officer **Kevin Melia** has stepped in on a temporary basis and they'll either make it permanent or get somebody else this summer. Time to send Scott your resumes if you haven't taken us at our word and done so already.

Ing Olivetti & Co SpA has admitted paying \$6.5m in bribes to Italy's Christian Democrat and Socialist parties to win contract from the **Italian Ministry of Post and Telecommunications** and another \$13m in protection money to other Italian politicians.

IBM's assistant general manager of programming systems and key player **Mike Saranga**, 30 years with Big Blue and an architect of its Unix strategy, has jumped ship and headed over to **Informix Software Inc** as senior vice president of product management and development, heading up all product development and marketing and reporting directly to chief executive officer **Phil White**. Informix needs more muscle in mainframe-style applications and practice in meeting deadlines.

Next year's Hannover Fair, **CeBIT '94**, is now set for March 16-23, 1994 at the old fair grounds in Germany.

Sybase Inc has joined the **Petrochemical Open Software Corporation**.

Oracle Corp is saying its anticipated shift to object orientation (UX No 428) is going to require significant changes to its core architecture touching on such things as storage management system.

Insignia Solutions Ltd, of Leeds and Mountain View, California, uncatagorically denies reports that it has not worked on its WABI-like SoftPC native Windows-on-Unix solution because its been too busy trying to fix NT (UX No 437). It's got multiple teams on all this stuff and everybody's been doing their jobs.

A lengthy Sunday *New York Times* piece on Somerset, the PowerPC development centre down in Texas, traces the notion of an **IBM/Motorola/Apple** chip alliance to **Phil Hester**, one of the RS/6000's principal designers, who reportedly e-mailed his suggestions to then IBM president **Tom Kuehler** in February 1991. Kuehler in turn called Apple president **Mike Spindler** and Motorola chairman **George Fisher**. Although Apple contributed the fewest people, its culture is said to predominate.

According to *ComputerWorld*, **TechGnosis Inc**, Boca Raton, Florida, has been granted a registered trademark on the term "middleware" because of its early use of the word.

Sparc International vice president **Greg Xenakis** is going to strike out of his own come the 15th of June, setting up as **Xenakis Marketing & Communications Inc**, a consultant on press and analyst relations. If you want to learn how to get along with all of us, call +1 415 949-0502.

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SUNSOFT UNVEILS DISTRIBUTED OBJECTS EVERYWHERE

At this week's ObjectWorld show in San Francisco, SunSoft Inc will announce initial shipments of an External Developers Release of its Distributed Objects Everywhere system, a key component of the company's long-planned strategy to move to a full object-oriented paradigm. The DOE release includes SunSoft's Distributed Object Management Facility (DOMF), an Object Management Group CORBA-compliant object request broker, and a set of object services, including naming, event notification, association and properties services, based upon the joint object services submission (JOSS) to OMG in February backed by 20 firms, which uses the Sun-developed Interface Definition Language, also an OMG standard. DOMF, the object services, plus other development tools featured in the DOE release, will allow ISVs and in-house software developers to begin creating distributed applications using objects, the company says. DOMF provides basic communication and management services and forms the backbone of project DOE, facilitating transport and location-independent access to objects, enabling objects to communicate with each other regardless of their location. SunSoft says that until now, complicated code has been required to make distributed applications work properly across the network. This release, it says, allows developers to integrate existing applications and create new objects that will interoperate with each other and positions it as the means of migrating from Solaris to a full distributed object environment. SunSoft's industry-backed ToolTalk interapplication mechanism was the first prong of project DOE. SunSoft will make the DOE release available free of charge to software developers and end users - development versions ship at the end of the month, beta releases will go out in October, with general availability slated for the beginning of next year. More news from ObjectWorld next week.

UNIX INTERNATIONAL "MUST PROVE ITSELF" TO USL...

Unix International may be under the impression it has in hand a brand new charter with Unix System Labs and Novell Inc (UX No 439), giving it a new lease on life and extending its sway, but it doesn't, according to USL president Roel Pieper. What it has is an opportunity to prove to USL and Novell that, despite a rather speckled history, it can finally cut the mustard. Responding to Unigram's front-page stories last week about what UI management called an "agreement in principle" between UI and USL/Novell for a significantly expanded UI charter, Pieper said that he and Novell were committed to forging a "governance relationship" with only one other organisation. He said it remains to be seen whether that organisation is UI, X/Open, the Open Software Foundation or a combination of any or all of them. It also remains to be seen whether they fold, integrate or merge. Pieper, speaking for himself and Novell chief Ray Noorda, reiterated time and again that it would be "one or none" of them. There is currently no commitment to any of them, he said. UI, however, is currently in the lead. It's basically "theirs to lose," according to USL executive vice president Mike DeFazio. USL is "not as far along with any of the others" and "not working" as actively on them, he said. Pieper clearly indicated to Unigram.X that discussions along these lines were afoot with the Open Software Foundation and X/Open Co, both of which denied they were in "governance" negotiations with USL. However, that may be because the time is not yet ripe. UI negotiations for what UI executive board chairman Jeremy Thomas called a "crisper relationship with USL" have been going on for three weeks after Novell announced its intent to buy USL in December and UI is currently the only organisation with "paper" from USL. However, nothing has been executed, nothing signed and there are apparently still points at issue. Pieper is waiting for UI's reply on how it would meet fundamental performance criteria. Details on page five.

...COULD FORCE UNIX BODIES INTO BED

The way USL is talking about its future relationship with either Unix International, the Open Software Foundation or X/Open Co - or some combination thereof - increases the pressure significantly for consolidation and realignment between the three Unix organisations. UI's "voice of reason," executive committee member Peter Stuart of ICL Plc, says the three will need to find more distinctive roles, common ground and eliminate overlap if they are to survive as independent organisations, although he argues they are more clearly positioned now - as a vendor driven, user driven and software development organisations respectively - than they have ever been. Stuart agrees that personality conflicts - or "discussion of the finer points of the relationships," as he puts it - have not helped matters along, but if the three cannot get together or at least interact as a troika, the bodies like Stuart's UI may not be long for this world. Japanese firms, heavily represented on UI's executive committee, are said to be demanding a more level playing field and UI is adamant on one issue: that the COSE initiative will not progress beyond the desktop. "It will not work," says UI, which we already know is antagonistic towards the rising influence of what is perceived in some quarters as a Hewlett-Packard Co/IBM Corp trojan horse. UI worries that if COSE tries to go beyond its initial desktop brief - which judging by its Xhibition debut (see opposite) now seems unlikely - then its action will provoke a reaction in much the same way that UI was created in response to OSF, which was formed because of AT&T and Sun, who came together because....

DEC BACKS COSE, DECLARES**END TO UNIX WARS...**

As expected, Digital Equipment Corp belatedly joined the Common Open Software Environment initiative last week, claiming that it had always supported the concept, but just wanted to know more about the process (UX No 439). "There was a lack of clarity over how collaboration would be encouraged and how the technology would be made available" said DEC's COSE representative Tim Yeaton, implying that with the publication of its White Paper on Open Systems Process Acceleration, any such confusion was now a thing of the past. The company says it will participate in the COSE working groups and make available some of its technologies and expertise. DEC says it sees the advent of COSE as a clear signal that the Unix Wars, which it helped to foster with its sponsorship of the Open Software Foundation, are at an end, and that Unix environments are becoming unified. DEC is participating in a working group with Hewlett-Packard, Sun Microsystems Inc, IBM Corp, the Open Software Foundation, and others to define a Federated Naming capability to improve interoperability across name services provided by technologies such as OSF's Distributed Computing Environment and the ONC-Plus version of Sun's Open Network Computing. DEC says it also backs X/Open's Desktop Working Group, which is to meet for the first time in San Francisco between July 13th and 15th.

...USERS AND ISVs ARE SCEPTICAL

Users and independent software vendors attending the presentation of the paper at the Xhibition conference in San Jose last week were not so sure that the White Paper has cleared up confusion surrounding proposed COSE technology. Representatives from major users such as Shell and the Lawrence Livermore Labs got up from the floor and dismissed COSE as "just six vendors getting together in a back room." One noted that the only recognition of any customer involvement in the process was of "counting up the dollars they will spend." He added, "if I want someone to tell me what's good for me I've got Redmond, Washington, to do that. You need customer involvement". Many for instance, with project developments already underway, were concerned that Silicon Graphics Inc's OpenGL had been excluded from the graphics options, with no consultation with users. COSE representatives argued that users do have a say through the user membership of related organisations such as X/Open and Unix International. OpenGL could still make it if a consensus builds, they said. Independent software vendors are equally worried about COSE, saying that until real details are forthcoming, the market has been frozen, particularly in the desktop arena. They are waiting for technical details of the application programming interfaces and for licensing terms and conditions of the common desktop. "You've told us nothing since the COSE announcement on March 17th", said Frank King, president of Pencom Software, claiming COSE was "shooting itself in the foot" by not giving out more information. An initial specification is due by the end of this month, but real details will have to wait until October's software developers conference.

NCR MOBILISES PENTIUM TO PLUG GAPS

"Showing evidence of a new, aggressive posture in the computer market, NCR" - yes, this is the company talking, "introduced an onslaught of new server-class computer products to what is already the most comprehensive family of business solutions in the world." In other words NCR Corp has filled in a few gaps in its all-iAPX-86 product line, offering symmetric multiprocessors with from two to 16 80486 or Pentium chips or any number in between (it says from one to 16, but a single-CPU machine is not a very convincing multiprocessor). Bundled fault-resilient capability using NCR Life-Keeper software and new price-performance entry points are offered. The server family now includes the new NCR 3575 with from two to 32 Pentiums and resilient software; the new NCR 3570 fault resilient corporate data centre with automatic failure detection and recovery and two to 16 50MHz 80486s upgradable to Pentium technology. The NCR 3555 launched last month is a mini data centre for transaction processing with two to 16 Pentiums. The 3550 is a departmental or enterprise server with an even number from two to eight 80486s, again with Pentium-type upgrade sockets. The NCR 3525, also launched last month, is the entry-level Pentium-based data centre server for transaction processing with up to eight CPUs. A new 3520 is an entry-level mini data centre server with up to eight 50MHz 80486s; the new NCR 3475 is a fault-resilient replicated branch server with two to 12 Pentiums; and the new 3470 is the same bundle with two to eight 50MHz 80486s. The 3455 is a one-to-six Pentium branch office or workgroup server launched last month. The 3450 is a departmental or low-end enterprise processing system with up to four 80486s; the 3430 is a low-end server with one or two Pentiums and the 3410 is a departmental uniprocessor with 80486SX or DX/2 CPU. All run Unix System V.4, and the 3575, 3570, 3475 and 3470 will be available in the fourth quarter, the 3520 is out now; from \$75,000 to \$500,000.

INFERENCE HAS OBJECT KIT FOR UNIX, NT

Inference Corp, El Segundo, California, has introduced Art*Enterprise, a 32-bit object-oriented development environment for Microsoft Corp Windows NT and Unix. The software developed under NT, is written in C, C++ and the firm's own object oriented development language. Art*Enterprise is a three layered object-based architecture designed for client/server environments. The first layer comprises a suite of object-based graphical user interface tools, which let users generate code using point and click functions; the second is an application programming interface level, which enables developers to create abstract entities and logical objects; and a data mapping object specification lets users define an object-oriented view of the firm's corporate data without modifying existing code. Art*Enterprise also supports data access interfaces to a variety of relational databases including Oracle, Sybase and DB/2. Support for Infomix, Ingres and VSAM will be added later in the year. Other Art*Enterprise features include: an object-oriented repository, which catalogues supported database tools, as well as other third party software and Inference's own tools; editors and browsers; and a text retrieval system for recalling unstructured information. Art*Enterprise is available for Windows, Windows NT and OS/2 platforms from July and on Sun Microsystems Inc, IBM and Hewlett-Packard Unix machines in October. Its priced at \$7,000 - £4,500 for Windows and OS/2 versions and at \$10,000 - £6,800 for Unix and NT editions.

ENCORE IN QUEST FOR MAPPER APPLICATIONS

Fort Lauderdale, Florida-based Encore Computer Corp is looking to pick up Unisys Corp Mapper and Cobol applications for its Infinity 90 Series of superminis. It has signed a joint marketing and development agreement with Nashville, Tennessee-based Zortec Inc to increase the capabilities of Zortec's rapid application development System Z toolset to make it possible to host large Mapper and Cobol applications on the Infinity 90s boxes.

ILOG SETS RULES FOR PROBLEM SOLVING

Ilog SA, Paris, France has introduced Ilog Rules, a library of tools allowing developers to embed problem solving routines modules into applications. The software developed in association with Thomson-CSF is designed to solve application development problems such as process control, simulation and decision support. Available in three different versions for C, C++ and LISP languages, Ilog Rules infers directly on the data structures and objects of the target application to give better performance and simplify maintenance, the firm says. Ilog also begun shipping Kads Tool, a graphic development environment based on the Common Knowledge Acquisition and Design Support (KADS) methodology. The software, developed with Cap Gemini Sogeti - under the auspices of an European Economic Community Esprit project - helps developers handle conceptual models, text graphics, dictionaries and hypertext features. The software also automatically checks the consistency of specifications and generates reports upon user request. It is available on Unix workstations from Cap Gemini and Ilog.

IBM PLANS A VERSION OF CICS FOR NT

The "let a hundred flowers bloom" policy at the new IBM Corp is soon expected to see the company acknowledging the existence of Microsoft Corp's Windows NT in a very visible manner by announcing a version of its CICS transaction processing software for the arch-rival to OS/2. IBM told US PC Week that CICS will be put up under NT "as part of IBM's plan to downsize the transaction-processing environment used by large companies to build mission-critical applications." IBM has already said that it will offer NT as an option on its PS/2 super server. "We've been on track to make CICS available on every platform critical to our customers - and NT is critical to our customers," Pat Sueltz, director of transaction systems at IBM's Hursley Laboratories near Winchester, UK. CICS for Windows NT will be functionally equivalent to the client-server version for OS/2, which is planned to ship in September. Both NT and OS/2 servers will initially support MS-DOS, Windows and OS/2 clients, with Macintosh client support to be added to both later, the company said.

IBM READY TO UNVEIL ITS DISTRIBUTED SYSTEM OBJECT MODEL CROSS-SYSTEM PRODUCT

IBM Corp is really beginning to push its object-oriented development expertise and on June 16 it launches its Distributed System Object Model. Put simply, DSOM attempts to be a cross-system product that enables objects to work together, irrespective of the machine on which they run or the language in which they were originally written. The plain non-networked System Object Model first emerged with the launch of OS/2 Version 2.0 and is embedded in the Workplace Shell. System Object Model introduced developers to the technology and enabled them to take advantage of the objects built into the shell for their own use, implementing 'inheritance' quite nicely, so that developers can take, say, the folder object from the Workplace Shell and tweak it for their own use - to make a mail in-tray, for example. The technology provides a standard way of defining an object's interface, based on the Common Object Request Broker Architecture's Interface Language Definition; implements a run-time mechanism for transferring requests from one object to another and defines its own 'language binding' which, once implemented by compiler manufacturers should ensure that objects will be interchangeable between System Object Model systems irrespective of the source language. To date IBM says that it has generic bindings that will that will work with any ANSI C or C++ compiler and IBM and MetaWare Inc are busily building support into their efforts so that programmers will be churning out System Object Model-compatible objects by default. Other support has come from Digital Inc which has announced SOM support in its Smalltalk/V and Parts object-oriented development environment, while Micro Focus Plc has made noises about building System Object Model support into its planned object-oriented Cobol. While the ability to share objects is useful, SOM as it stands is not without its glitches: in particular programmers found that to share objects with the workplace shell, their applications had to share its address space - which does not make for the most robust of systems. Distributed System Object Model aims to cure that problem, so that applications in different address spaces can work together. It is almost a by-product of the ability to run over networks, however it is this feature, rather than the promise of distributed objects that interests Laurence Shafe of Intelligent Environments Inc which has versions of its Application Manager client-server development tool for both OS/2 and Windows NT. The June 16 launch will see IBM officially unveil SOM Objects Toolkit for OS/2 with an AIX Unix implementation following hot on its heels. The Toolkit itself will contain the Distributed Systems Object Model implementation and the C++ compilers from IBM and MetaWare. A Microsoft Windows version is scheduled by the end of the year, with HP-UX following next year. Native support for the Distributed System Object Model will be added to the OS/2 Workplace Shell in "a future release".

JAPAN COMPUTER FORMS JCC CORP IN US

X Window System terminal specialist Japan Computer Corp has established JCC Corp in San Jose in an effort to expand in the company's chosen segments of the US X terminal market. The company offers a full range from entry level to three-dimensional visualisation models, which come in three model groups. They use R-series RISC CPUs and proprietary ASICs; the company is offering high performance, full colour and a new PEX type terminal costing from \$1,000, the Xface small footprint, colour and monochrome flat panel terminals; and 15" to 21" monitors with monochrome, grey scale and colour; a new Global X-16 is aimed at desktop publishing.

HOW COSE'S COMMON DESKTOP WILL MAKE IT TO MARKET

An initial specification for COSE's common desktop environment is due out by the end of this month, possibly June 21st. X/Open Co has already seen these preliminary specifications. But COSE spokespersons are already preparing those looking for any technical details for a disappointment. USL's Andy Nagal described the initial document as describing "the first high level of common behaviour", while Hewlett-Packard Co's Doug Johnson claimed that the document "would not look at the detailed workings of the application programming interfaces (APIs) - that would mean a thousand pages of documentation." That work, he said, would be carried out over the following months, in preparation for the common desktop environment software developer's conference scheduled for October. But, as one attendee pointed out, if the common desktop is basically Motif, why do we need a conference at all? The answer is that the specification will go "significantly beyond Motif". According to Johnson, it will detail such things as help, interprocess communications, light-duty systems management, iconisation, and applications launching and network distribution. In addition, an Open Look window will be able to be popped up in the middle of Motif, and parts of HP's Visual User Environment, such as the dashboard and "rooms" concept, are to be added. Indeed a reported 100 page draft of the specification in circulation (UX No 437), describes a Motif environment with a VUE control panel on the bottom. By October, the first sample source code should be ready. This will then be used as the basis for individual implementations of the common desktop from the various COSE companies, and from anyone else who wants to use it. Other developers also have the option of working entirely from the specification, with no royalties to pay, or wait until finished product is available on the market "at fair and reasonable licensing terms and conditions". That should be the first half of 1994. Meanwhile, the specification will be pushed through X/Open's FastTrack standards ratification process as quickly as possible. Systems management specifications, essentially a collection of APIs that will reconcile OSF's Distributed Computing Environment with Object Management Group standards - part of the so-called COSE II and III efforts (UX No 430) - won't see the light of day for at least 18 months. COSE representatives have reportedly been talking to X/Open about proposals to speed up its FastTrack process for the Common Desktop and other COSE specifications, involving the concurrent review of specifications by its members and others. COSE says it plans to make all its working groups publically visible, and will announce the existence of each working group at its formation.

HP WRANGLES WITH SUN OVER TERMS FOR WABI

Hewlett-Packard Co says it is still trying to come to terms with Sun Microsystems Inc on its Windows-on-Unix WABI contract. "It's Sun paper," it says; "if we started with HP paper we'd be finished with this by now." HP's Advanced Systems Division PC emulator product marketing manager Don Chouinard said he'd predicted so many times when they'd come to terms he's reluctant to do it again. Chouinard says HP wants to insure WABI gets to its platforms "in a fair and equitable manner." He said Sun has also asked potential WABI licensees if they want to contribute technology. Once HP signs the contract, it needs to get the code and have its R&D people verify that the stuff works to HP standards. It's only after that that HP will announce it'll have WABI on its machines. It claims however that Sun has WABI working on HP in its labs and that it's faster than any other platform because of HP's X Windows handling abilities. "It makes [Sun CEO] Scott McNealy's eyes bug out," Chouinard claimed. Chouinard said HP is anxious that all of the different emulators get on its platforms. That would mean Insignia Solutions' second-generation SoftWindows technology now under development and the native porting libraries of Bristol Technology Inc and MainSoft Inc. HP already ships Insignia's first-generation SoftPC.

...AS SUN SALES OF LIKEN MAKE UP ONE THIRD OF XCELERATED'S REVEUNE

No WABI purist, Sun, it seems, has been quietly reference selling Xcelerated's Liken emulator for the last 18 months through its S3PO sales arm which last year accounted for about \$600,000 of Xcelerated's \$1.8m in revenue. Now the pair are going to make it official. A contract is in the offing, probably in July, making it possible for Sun to deliver the stuff itself. Meanwhile, Xcelerated, which has been talking to IBM, has a deal with Hewlett-Packard in Europe whose third-party non-HP label unit, its Local Products Organisation, just cut a deal to handle Liken last month.

NOW CHORUS WINS CRAY RESEARCH...

Unix System Labs is to announce that it is moving Unix SVR4.2 and SVR4.2/MP over to Chorus Systemes SA's commercialised Chorus/Mix microkernel (UX No 439), and today the French company also is going to reveal Cray Research Inc as its latest design win. Cray will announce today that it is to use the Chorus microkernel to enhance its Unicos operating system for use with all of its existing parallel vector and forthcoming massively parallel systems. "The serverisation model in Chorus/Mix matches our requirement for integrating our distributed platforms as a single system," says Cray Research software product manager, Don Mason. The Chorus technology offers support for distributed or loosely-coupled systems in addition to traditional processor architectures - Cray will use the operating system software to integrate its systems in mixed vendor environments. Cray has already ported Chorus/Mix to a Y-MP box.

...PLANS MICROKERNEL COMPATIBILITY EFFORT

Chorus says microkernels are now maturing to the point where industry collaboration on microkernel and server interfaces is required - their popularity is bringing up a boatload of compatibility issues. Indeed it says there are already informal discussions going on between microkernel vendors, suppliers and developers. The issue, as Chorus sees it, will be to ensure that microkernels don't get standardised at the level of procedural system calls - like Unix has been - but at a much higher level that can accommodate the range of object-oriented microkernel efforts underway too. It must be hoped that the bloody scenes witnessed during Unix standardisation efforts can also be avoided by this early warning process. The microkernel standardisation effort won't be restricted to Chorus technology - the alternative Carnegie-Mellon Mach microkernel being used by the likes of the Open Software Foundation and IBM Corp is an equally important part of the proceedings. Chorus envisages the creation of some form of interface definition language that can interpret messages exchanged by server systems that would allow, for example, microkernel-based systems to be plugged in and out as required of the network. Some of that work is already being carried out as part of Chorus' Overture project under the European Commission's Esprit programme. "The concern," says Chorus, is "that people will try to standardise too early." It believes that a quickly formulated and implemented standard won't be able embrace the variety of microkernel-based object systems coming down the track, and believes it would be prudent to wait until some of this stuff has begun to take shape. In the meantime, USL has already pledged to make the system programming interfaces of its microkernel architecture compatible with the Mach microkernel currently under development at OSF's research institute.

CONGRUENT NTNIX ENABLES NT TO CANNIBALISE X WINDOW

Congruent Corp of Manhattan introduced NtNiX, a software development kit that includes OSF/Motif and enables X Window and Unix client applications to be hosted under the Microsoft NT operating system and connected to X terminals. Aimed at developers that want to standardise on Windows NT while continuing to take advantage of the features and economy of X terminals, NtNiX is designed to extend the life of X applications by enabling users to downsize from Unix systems to NT personal computers. It includes Motif Window Manager, bootp tftpd for X Window font support, in versions for both iAPX-86 and R-series at \$400.

HP TO REVEAL NEW OPEN MAIL INTERFACES

"Choice without compromise" is how Hewlett-Packard Co is billing the announcements it'll make at this week's Electronic Messaging Association Conference in Atlanta, Georgia. Following the addition of a Microsoft Corp MS Mail user interface to its own Unix, X.400 and server-based Open Mail service, HP will make other Windows-based interfaces available on the environment - possibly Lotus Development Corp's cc:Mail. There will be other programmes for getting users off proprietary e-mail systems and on to Open Mail. HP says the move has been prompted by customers who have said they like client interfaces of popular e-mail system, but loath the back-end. HP says Lotus and Microsoft are readying server versions of their e-mail systems for delivery later this year. HP will make the same noises at a European event in Montreux in a couple of week's time.

SILICON GRAPHICS/MIPS TECHNOLOGIES ROUNDUP

By William Fellows and Maureen O'Gara

TFP taped out

Mips Technologies Inc says its multi-part 4m-transistor streaming superscalar TFP chip, the one that's supposed to go into the high-end Silicon Graphics Inc Power Challenge shared-memory symmetric multiprocessing box by the end of the year, has made it to tape out after some delays. Toshiba Corp will be making the part, which will probably cost just under \$2,000 and the boards it'll plug into are all ready for it. A second fab will be added soon - in view of Mips' disastrous emitter-coupled logic flirtation in the R6000, which was manufactured solely by the now-defunct Bipolar Integrated Technology, Mips says it'll now always have "at least two sources," for its products. Despite Mips' Windows NT proclivities - see below - the cost structure on TFP will likely make it a Unix-only affair. SGI is looking to produce a box to take up against Convex, Cray, IBM at its high end and 200MHz DEC Alphas when they become commercial. The chip is called TFP for what the Mips-SGI combine trust will be a monster floating point performance currently estimated at 200 SPECfp92. It should register between 85 and 90 on the SPECint92 scale. It's supposed to put the power of 18 Cray Y-MP supercomputers on a single chip set.

Terminator

Meanwhile, Mips' T5 "Terminator" CPU (UX Nos 377, 436, 438), the single-chip successor to the R3000, R4000 and R4400, will tape out around a year from now, with production systems expected some 10 or 11 months thereafter. The T5 will perform out-of-order "speculative" execution to speed throughput and start life as an 0.35 micron part. So far this technique has only been applied in LSI Logic Corp's ill-fated Lightning Sparc. That project was turned over to Metaflow Technology Inc last year - another failed effort, bankrolled by Hyundai Electronics Co, dubbed Thunder Sparc. Mips thinks it will succeed because of the masses of diagnostic and simulation resources it is throwing at the thing - and "we're good," boasts Mips' famed director of systems development, John Mashey. Not all of Mips' six fab partners will take on the T5 - only two are currently equipped for 0.35 production in any case.

Terminator II

R4000 upgrades will follow T5 - 200MHz, 0.6 micron implementations with more cache memory. These are what would have been known as the R5000 - Mips has abandoned that effort saying it can get the extra speed and cache without a complete re-design. Mips will shrink all of its processors down to 0.6 microns or below over time and expects T5 to slim down to 0.25 microns by 1996. This will be the starting point for Mips' next-generation single-chip R series implementation, which is expected to combine TFP, T5 and VRX features.

VRX at Comdex Fall?

Although Mips' low-power VRX, or R4200, won't be taped out until next month and isn't due to sample until late this year, the processor - destined for portable Windows NT systems and manufactured by NEC - is expected to make a showing in some guise at Comdex Fall. The two firms hope to get the cost of the thing down to \$1 per SPECint92 - or around \$50 - but it is proving a difficult job, Mips says. We're also told to expect a bunch of new R3000 derivatives for the consumer products industry out of the Sony Corp stable fairly soon.

Intel replacement kit

Mips Technologies Inc's Open Design Center has been showing off an initial prototype of its riscPC/ISA instant Mips kit. This, however, isn't the one it wants to get to. This one's a PAL design and using programmable array logic means it can only be used for high-end desktop machines. The more compact ASIC-based design, which is where Mips really wants to get to, won't be ready until the Comdex/Fall timeframe towards the end of the year. The ASIC design will let them get into portables and laptops, even notebooks. Mips is courting all the PC cloner makers. It says they will be able to simply replace the 80486 Intel chip in their PCs with an R4000 CPU daughter card for twice the performance of Intel. The kits can also use the more powerful R4400 and portables are slated to take the recently announced R4200 or low-cost low-voltage VRX processor.

Pellucid abandons hardware for OpenGL porting

Pellucid Inc, the Mountain View, California-based Silicon Graphics Inc spin-off just bought by audio specialist Media Vision Inc for \$15 million in stock, has shelved its attempts to peddle patented Microsoft Corp Windows NT systems designs that incorporate both Intel Corp and Mips chips. The novel designs, which resulted in the creation of a 386/R3000 prototype built by people who designed SGI's Indigo system, attempted to resolve the difficulties software emulators are having running legacy PC applications in NT (and Unix) by simply letting them run natively on an Intel chip without the user being aware. In fact, the machine was called the HardPC in contrast to Insignia Solution's SoftPC DOS and Windows-on-Unix-and-NT emulator as well as the RISC-86. Pellucid was unable to find any OEMs interested in the kits and even SGI, then a 5% minority owner, failed when it tried bidding the machines. *Client Server News* reports that Pellucid has chosen high-end graphics as its new mission, porting SGI's OpenGL - which it has licensed - to various chips to be used with Windows NT. SGI and Microsoft are currently porting OpenGL to the next iteration of Windows NT. However, it could be this time next year before that software is released. In the meantime, other vendors such as NEC, Pellucid's first customer, are interested in whatever OpenGL capabilities they can get their hands on. Pellucid has ported a software-only OpenGL software development kit for Windows NT to the 80486 and Mips R4000 and intends adding Alpha and Pentium versions, according to OEM sales director Ross Smith. The Pellucid implementation does not optimize OpenGL the way the SGI/Microsoft port will once it's done. Microsoft will be creating a path inside NT for OpenGL to bypass software constraints and add hooks for hardware accelerators that will exploit the SGI technology. Pellucid is hoping to release its stuff as a product later this month at PC Expo in New York for around \$1,000.

Time Warner and Mips team on virtual reality for TV

Time Warner Inc's cable television unit and Silicon Graphics Inc have formed a relationship to develop technology for the planned full service interactive digital cable television network in Orlando, Florida. Silicon Graphics's MIPS Technologies unit will provide the multimedia architecture to power the network. Initial plans call for Time to fund the research and development necessary to enable Silicon Graphics to adapt its technologies for digital multimedia and graphics to the home markets, the aim being a digital video server to deliver multimedia to a digital multimedia set-top device. The development is very good news for Silicon Graphics and Mips, because it relieves a little of the pressure on Mips to secure further workstation and server design wins.

Wyse uses Mips chip in new volume X terminals

Wyse Technology Inc, one of the giants of the terminal industry, is at last preparing to enter the X-terminal business with a full range of systems. For the last year or so its lone X-terminal was the monochrome X5 which the company maintains, has sold in large numbers with a minimum of marketing efforts. Now Wyse is convinced that there is enough volume in X-terminals for it to sit up and take notice. It has pencilled in September as the launch date for five X-terminals, sneak previewed on its stand at Xhibition last week. The systems result from its partnership with sister company Link and with X software house Visual, of Westborough, Massachusetts. Wyse refuses to give pricing or projected volumes, but has a low-end 14" monochrome 68020-based system expected to come in under the crucial pricepoint for low-end X-terminals - that's under \$1,000. The high-end systems use a Mips R3000 derivative RISC chip, and could replace low-end workstations for some applications, said Wyse. Using Visual-supplied software it can run local clients, such as the Motif Window manager, minimizing network traffic. Facilities for sound are also included. Wyse says the other independents, such as NCD and Tektronix, should worry about it entering the market, but Hewlett-Packard has been one of the strongest players in X-terminals of late. It will manufacture the terminals, in volume, at its Taiwan and US-based manufacturing plants. At Xhibition, Wyse was also showing high-resolution monitors for Sun workstations which it said were half the price of Sun monitors.

UI "ASTONISHED" AT UNIX LABS' PLAN

Unix International was shocked to learn it is not in the picture it thought it was and said it did not know Unix System Labs was considering relationships other consortia - see front page. Executive board chairman, UniSoft's Jeremy Thomas, said he would be "absolutely astonished if USL/Novell were negotiating with the others because UI hasn't been told anything about it." The role of USL and Novell's partner organisation would apparently be much the same as UI's is now, handling joint promotion of APIs and tools, joint education, the requirements process, RFPs, productisation, early access and general availability. USL boss Roel Pieper did not define its responsibilities in any detail but made it clear that the organisation he and Noorda link arms with must be supportive of their aims. He said he and Noorda were being "extremely careful" about which organisation they get involved with. Being logically positioned, UI could be that organisation, he said, although he questioned whether UI wants the same things Novell and USL does and whether, considering its membership, it is able to provide what's needed. X/Open, he said, is better positioned and equipped to do RFPs and sort out user requirements. It's probably not as strong as UI on the requirements process. Pieper acknowledged that, despite obvious personality clashes between the two companies, UI wants to continue its relationship with USL but how that works out depends on how it responds to the performance requirements. Pieper is not sure UI "can deliver." It was "unable to deliver" things USL wanted in the past. He also added that neither UI nor OSF were "fundamental to the activities of COSE," despite UI's attempts to intrude itself. UI is believed to be crossing its fingers that COSE proves short-lived, hoping to pick up where it leaves off. Pieper was not surprised that UI and its executive board, which at its last meeting called USL a "whipping boy" for IBM Corp and Hewlett-Packard Co because of the COSE alliance, would have a negative reaction to COSE (UX No 439). It was a "logical reaction for second-tier players," he said. He also said that before COSE came about he was criticised for not having a relationship with IBM and HP which he compared to "dancing with elephants - it's not easy to do." Now that he does, well, it's damned if you do, damned if you don't. When asked by USL whether it should withdraw from COSE, the UI board, which likes COSE's common desktop initiative and little else, said no.

FUJITSU GETS CLOSER TO SUN ON UNIX, PLANS PARALLEL EFFORT

Getting even closer to Sun Microsystems Inc, Fujitsu Ltd has now agreed a collaboration on Unix software under which the Japanese company will use SunSoft's Solaris software environment for its full line of S-Family Sparc workstations - which are built by Sun; SunSoft and Fujitsu will work together to enhance interoperability between Solaris 2.x and Fujitsu's UXP/DS Unix to increase the number of applications available to users under both. And Fujitsu plans to develop a new line of parallel processing computers that it says might one day replace mainframes - although it is not confirmed that it plans to use the Sparc RISC chip as the building block. Fujitsu plans two separate developments: one will be a dedicated parallel database processor, which seems to be an effort to follow down the same route IBM Corp intends to travel with its parallel 370 architecture machines, the other will be a system for transaction-intensive applications such as airline reservations and on-line financial and banking work - but they won't be ready for three years.

NT PORT TO SPARC "UNDER DISCUSSION"

Microsoft Corp has admitted to having "preliminary discussions" with Sun Microsystems Inc about porting Windows NT to the Sparc chip. However senior vice president Paul Maritz said it was "too early to tell" if it would work out. The company also confirmed discussions with Hewlett-Packard Co on moving NT to the PA-RISC chip, as widely thought. Sources say more ink has been spilled in the press about a deal between IBM Corp and Microsoft for the PowerPC chip than on any agreement papers between the two. Mips Technologies Inc chip vendors are quick to claim their chip will be the only non-Intel Corp RISC platform Microsoft itself ports to. Anybody else will have to do it themselves a la Digital Equipment Corp and Intergraph Corp.

INSIGNIA DELAYS PROVE TOO LONG FOR MICROSOFT AS IT TURNS TO

QUORUM TO PUT APPLICATION UP ON UNIX

Unwilling to wait for the new and improved version of UK firm Insignia Solutions Inc's SoftPC or SoftWindows, the Microsoft-approved Windows-and-MS-DOS-on-Unix technology (UX No 434), Microsoft Corp will this week announce a deal with Quorum Software Systems Inc to bundle a copy of Microsoft's Word and Excel applications with every copy of the new Quorum Equal 1.0 applications adapter that Quorum ships. Equal shipments started last week. Equal is Quorum's Mac-on-Unix solution for Sparc and Silicon Graphics Inc Indigo machines and ironically the programs Microsoft will be bundling on the CD-ROM are the 32-bit Mac versions of Word and Excel. The bundling will up Equal's price to \$1,295. A plain vanilla copy of Equal will be available for \$695 to Microsoft Select customers, big accounts who have valid Microsoft volume licences they can transfer to their workstations. Word and Excel retail for \$500 each, with street prices bringing them to around \$300. Microsoft and Quorum anticipate expanding their relationship down the road and bundling Microsoft Office, its number one selling program which adds the presentation application PowerPoint and Mail to Word and Excel, with Equal 1.5, due in the third quarter. By the time Quorum gets to Equal 2.0, scheduled for late 1993, it should have certified the top 10 applications, though it will probably be able to run 200. Quorum also intends expanding the number of Unix platforms it supports. Depending on vendor support these could include Hewlett-Packard Co and IBM Corp. Microsoft figures the software has a chance of being used by 10% of what it estimates at 500,000 installed Sparc and SGI machines.

Quick solution

Microsoft product manager Dale Christensen said Microsoft has no intention of doing any native ports of its applications programs to Unix because of the small Unix base, the amount of work involved and the difficulties it would have keeping the Unix version current with non-Unix versions. Still, Microsoft needed a quick solution for running its applications across the enterprise, leading it to work with Quorum during Equal's development cycle and beta test period to insure its quality, testing and application certification. Equal's performance on a Sparcstation 2 is said to be equivalent to a high-end 80386 machine or a mid-range Apple Mac 2ci. With a Sparc 10 or R4000 Indigo, performance is reportedly comparable to a Mac Quadra or 80486 PC. Christensen claimed Equal's performance was superior to any emulator or even a native port. The Mac application programming interface is richer than Windows, with some 4,600 calls versus 500, reportedly making Quorum's performance better than Sun's Windows-on-Unix WABI or Insignia's SoftPC emulators. The emulators run 16-bit applications. Quorum resists the term emulator and calls itself an applications adapter, claiming it transcends the performance shortcomings of emulation products. Equal's use is transparent to the end user and it runs applications in full colour at accelerated speeds, embracing the client/server features provided by Unix and integrating them into Motif or Open Look. Contrary to misapprehensions, Equal does not look like it is simulating legacy platforms or bringing the Mac Finder over but transforms the application's look and feel and resource base to the host platform's. An Equal user doesn't have to be literate on two computer platforms either. Its stuff actually looks like a native port of the software leading to rumours that that's what Microsoft has been up to. Quorum says Equal and the two programs install in 15 minutes on a workstation. Quorum said users will be able to exchange Word and Excel files with Macs and PCs for the first time across a network or via direct floppy exchange using a built-in Equal feature that allows Unix workstations to read and write Macintosh formatted floppy disks. The same facility will reportedly be extended to MS-DOS disks soon. For the first time too, Workstation users can cut-and-paste Word and Excel text or graphics between each other and with native Unix apps that use the X11/Motif clipboard. Equal will be available through distribution channels such as Access Graphics, Qualix, SGI Express, UniDirect and Digidyne in Canada. European distribution and international versions are promised for later this year.

MICRO FOCUS EUROPEAN USER CONFERENCE

By Alison Hawkings

At its European Cobol user conference in London last week, Micro Focus Plc told users about its future product strategy for Unix and Microsoft Corp Windows NT and unveiled plans to develop an object-oriented version of Cobol by 1995. It also demonstrated its new transaction processing monitor, MTS (UX No 436).

Micro Focus' modern approach to providing simple and easy to use Cobol compilers, debuggers and other tools has made it market leader and a de facto Cobol standard in the industry. OEMs of the technology and large mainframe manufacturers including DEC, IBM and ICL have been in Micro Focus' pockets for the last 15 years and use the firm's tools to develop their own Cobol applications. Last year Micro Focus reported revenues of \$116m and annual compound growth of 20% - 60% of sales are derived from the US, 25% from Europe and 15% from the rest of the world.

21st century

Micro Focus, Newbury, Berkshire, was born 16 years ago with the mission to bring Cobol "kicking and screaming", if necessary, into the 21st Century and down onto Unix and personal computer platforms. But it has been a hard slog, and a great chunk of the firm's revenues still come from maintenance tools, which its says are "a lucrative, but necessary evil of Cobol". Nonetheless, Micro Focus believes that all Cobol application development should be offloaded to workstations and personal computers for both mainframe and client/server application development because it speeds up development schedules, makes developers' jobs easier and saves money. It has taken a long time, but the client/server message is getting through and the Cobol market place is changing. Marc Balhechet Micro Focus' European Marketing manager says "The nature of business has changed. IT decisions have made it to the boardroom and directors realise they have to maximise all their computing investments to increase productivity, while streamlining costs. Cobol is a very effective way of downsizing to client/server because it's inextricably linked with the mainframe. Cobol is probably one of the most common denominators between different hardware platforms and we're committed to providing cross-platform support on as many systems as we can."

Key to the firm's client/server strategy, is the Micro Focus Software Development kit (SDK) for 32-bit IBM OS/2, SCO Unix and Microsoft Corp Windows NT platforms introduced last week. The tool allows developers to create 32-bit Cobol applications and migrate existing 16-bit applications to 32-bit environments. It comes with a range of 32-bit tools taken from the Cobol Workbench line including Cobol compiler, animator graphical code debugger and an operating systems extensions execution environment. According to Micro Focus, SDK removes restrictions associated with 16-bit architecture such as 64Kb system limits and the need for segment cross coding, and provides support for a variety of mixed language applications. Cobol modules can also interoperate with different modules written in C, Pascal and PL/1, and with routines like Presentation Manager, Motif and Windows. Win.32 can be called directly from Cobol. SDK also creates Micro Focus intermediate code, native code and object code files with portability provided at the source and object levels. Code is portable across OS/2, Windows NT and Santa Cruz Operation Inc Unix. The kit ships this month. Meanwhile, Micro Focus is readying to introduce Cobol SQL Transparency (CST), a gateway which lets users access and map Cobol code in and out of relational databases including Oracle, Informix and Ingres. CST is scheduled for release in September.

Objects

Object technology is also an important part of Micro Focus' Cobol strategy and it is determined to design an object-oriented version of Cobol and a range of development tools by 1995. The American National Standards Institute (ANSI) has already commissioned the company to develop a prototype implementation, but specifications aren't expected to be released until 1997. ANSI Object Cobol will include features such as instantiation through class definitions, invocation of objects using a messaging protocol, class inheritance and polymorphism. In parallel with the standards body initiative, Micro Focus is working on its own object-based Cobol and already has a prototype running in the labs. A range of object-based tools are also being developed. The company hopes to roll out alpha versions of Object Cobol late next year - general availability Cobol is not expected until 1995. But is there a conflict of interest with ANSI?

Raymond Obin, who heads up the object development, says Micro Focus' will push for its version to become a de facto standard and for ANSI to adopt its complete implementation. However, if this doesn't pan out the company will sell the two versions side by side. If that fails Micro Focus will provide migration paths for Micro Focus object Cobol users to ANSI Cobol.

Another departure for the company is the introduction of its own transaction processing manager, MTS. Launched last month (UX No 436), Micro Focus claims its system reaches beyond Unix and runs under Windows NT, IBM OS/2, CICS, and Windows and MS-DOS can access it as clients. The driving force behind MTS was user demand, Micro Focus says. "Customers who felt safe with Cobol at a mainframe level were cautious about moving all their on-line transaction processing down to Unix. At the same time most users also want a more open environment, with access to mainframes, Unix and personal computers... MTS is practically platform independent and its available in a couple of months" Balhechet says. Going head to head with IBM's CICS/6000 offering, the firm also provides software that can run IBM CICS applications and communication links to other transaction systems and with mainframe and networked CICS systems. Application compatibility and gateways for USL's Tuxedo, NCR Corp's Top End and Transarc Corp's Encina will be provided in the future, and the Unix transaction processing monitor market is still wide open, Balhechet says. Development versions of MTS will be available for Sun Microsystems Inc Sparcstations in the fourth quarter.

INFORMIX GUNNING FOR NT MARKET

Informix Software Inc wants to own the majority of the Microsoft Corp Windows NT database market and thinks it's got the product strategy that will do it. It has announced a port of its Informix-SE mid-range relational database management system to NT's Advanced Server platform, planning on making it available at the same time as the Advanced Server goes on general release. The SE port is interesting in itself because Informix used Datafocus' still-unreleased Unix-to-NT "translator" NuTcracker (UX No 438) to get the job done, an exercise Informix says produced better-than-expected results. More interesting perhaps are the four large financial accounts reportedly rounded up by systems integrator TRW who want to immediately deploy some 7,000 to 10,000 NT clients off of Unix servers. SE however is not Informix' strategic NT platform. That space is reserved for an unnamed product Informix still has under development and refers to as PDQ, short for what it's supposedly good at, parallel data queries. PDQ code, part of a family of releases Informix has dubbed the Dynamic Server Architecture, is due to be frozen in July and be ready for beta in September. At least that's the schedule for the Unix version. A parallel development effort under a separate team is now under way for NT and the two aren't quite in sync. However delivery of both species is set for the early part of next year after Informix trots out OnLine 6, the first of the Dynamic Server Architecture family and the company's first attempt at multithreading and parallel capabilities, a completely different animal from SE. Informix is already giddy with delight at the benchmarks it's getting from PDQ, claiming it performs at close to theoretical limits. To get both a PDQ Unix and a PDQ NT out the door Informix will have to master the art of doing multiple betas, a factor that in itself should hold NT back. The SE port buys Informix the luxury of time to experiment with NT as a server and allow its 3,000 value-added resellers to develop NT applications and learn the environment on a familiar, reliable and easy-to-use platform.

XHIBITION '93

By John Abbott

NCR ENHANCES ADDS X-STATION LINE

NCR Corp has added a local Open Look virtual window manager to its Intel Corp 80960-based ADDS 3533 XLR X-Station range, claiming to be the first to implement a local window manager client for Open Look (although Tektronix also claims to have one). A local Motif Window manager is already available. The idea of implementing a window manager to run on the X-Terminal itself is to speed up performance and distribute resources more evenly across the network. NCR has also added xEasy software to help manage installation, operation and remote administration, remote terminal configuration, terminal locking, colour emulation and additional font support. On the hardware side, NCR has introduced resident X-Server card support so that X-Stations can be booted without having to download from the host and support for Sun Type 4 and international keyboards. The ADDS terminal range includes 14" to 19" high resolution colour and 17" and 19" monochrome models.

HDS ADDS PERIPHERAL SUPPORT, SOUND AND NEW MODEL TO X-TERMINALS

Human Design Systems Inc and NCR Corp are among those X-terminal vendors now supporting PCMCIA (that's Personal Computer Memory Card Industry Standard Association) standard peripheral cards on their workstations. The credit card size adapters provide a standard interface and small form factor for peripherals such as disk drivers, RAM expansion, flashPROM memory, modems and network adapter cards. They are also used in personal computers and serial terminals. HDS will supply adapter cards for \$99, and is offering 2.6Mb and 5Mb flashPROM cards and 20Mb and 40Mb versions of Hewlett-Packard Co's KittyHawk hard drives for \$600 and \$700 respectively. HDS has also added a new X-terminal to its product line: the Intel Corp 8060CA-based FX14, which at \$900 is said to be the lowest priced X-terminal on the market. It is also fully expandable unlike some of its competitors, points out HDS. The company, based in King of Prussia, Pennsylvania, has also added support for stereo sound to its X-terminal line through the introduction of the HDSperx multimedia option.

MICROSOFT PUBLISHES ITS HATCHET JOB ON UNIX

Microsoft Corp's paper on Windows NT and Unix - Interoperability and Competition - claims that more than 60% of Unix customers are evaluating or considering NT, and that of all the applications being ported to NT, 25% are from Unix, VMS and MVS. Microsoft recognises Novell Inc and Sun Microsystems Inc as its strongest competition, but says Novell is pushing two technologies - NetWare and Unix - that are difficult to install, use, integrate and support together. Sun, it continues, is the first Unix vendor to offer fully compatible systems on both Intel and RISC, and "may include credible support for Win16 applications". But, says the document, Sun is having trouble penetrating the commercial market, and disconcerted its customers twice by switching from Berkeley Unix to SVR4 and more recently by supporting COSE and Motif. The paper highlights market fragmentation and competing standards, inconsistent implementations of advanced features such as security and multiprocessing, difficulty of use, inconsistent user interface, the terminal host design, poor application design, functionality and performance problems with X, difficult systems administration and lack of access control lists as the major weaknesses of Unix. Windows NT, on the other hand, is powerful, reliable, open and client/server. Oh, well, that's all right then.

NEW X GROUP GOES PUBLIC

The X Industry Association, formed last year after rumblings of discontent over the minimal marketing and promotional efforts of the technically led X Consortium at MIT, went public at Xhibition, launching an education drive aimed at information systems managers and users seeking information on the benefits and technical aspects of deploying X Windows. X Consortium director Bob Scheifler welcomed the move. Chairman is David Harris of Adobe Systems Inc, Peter Shaw from AGE Inc is treasurer and secretary. The group invites active participation: current membership includes ADDS, Adobe, AGE, DEC, Grafpoint, Hummingbird, ICS, IXI, Kinesix, NCD, Non Standard Logics, Omron, Quarterdeck, SHOgraphics, Tektronix, Telesoft, WRQ, Visual Edge, Visionware and the X Business Group. Contact +1 415 615 7911.

AGE HAS PC X SERVER FOR NT

X Windows firm AGE Logic is just starting to figure out that X Windows is the key to interoperability between Unix and NT and a solid reason to pay X some mind, reports *Client Server News*. It was the fact that WABI, Sun Microsystems Inc's way of running Windows applications on Unix, used X Windows as the "translator" between the two systems that got AGE to thinking. Microsoft has left it to third parties to provide X connectivity for NT so San Diego, California-based AGE has come up with some PC X server software for it called Xsoftware/32 for Windows NT. It adds 32-bit X11R5 server capability to 80386, 80486 and Pentium-based NT system so users can concurrently access and display Windows, NT and network-based Unix applications on the same PC. AGE has added enhancements like CascadeX so windows can be positioned in a Microsoft-like cascading format or the standard X Window System geometry format and the Colour Map Reservation System to optionally override the standard X colour map routine and run the NT colour map instead for clarity and consistency. The stuff will sell for \$500 in single user versions when NT ships - for \$1,000 AGE will provide three pre-released copies of its software, priority technical support and free upgrades.

Steve Auditore, president of the X Business Group, says there are now over 2.5m devices installed worldwide capable of supporting X applications. The group also has a new report out on X in Europe.

NCR Corp also announced its StarPro SNA 3270/X emulation technology to connect its 3000 series of Unix processor with SNA host systems, allowing 3270-type emulation from its X-Stations and workstations. NCR also says it is working with Unix System Laboratories to provide SunSelect's WABI Windows-to-X translation software for its X-terminal and workstation customers.

Tektronix Inc has added the TekXpress XP19 X-terminal to its product line, a colour, Sun-compatible 19" terminal for \$5,000. It uses 32MHz TMS 34020 graphics chip from Texas Instruments Inc with two custom ASICs, and comes with 4Mb memory expandable to 12Mb using industry standard SIMMs.

The Unigraphics Division of EDS based in St Louis, Missouri, is to use internally up to 400 copies of the eXodus Macintosh X server from White Pine Software Inc, Nashua, New Hampshire, and plans to market the product to its own customers as part of Unigraphics CAD package.

Somerset, New Jersey-based Melillo Consulting Inc is to market Hewlett-Packard Co's SoftBench suite of CASE tools for HP and Sun Microsystems Inc workstations: Melillo already markets MoOLit and OLIT X toolkits, and SAIC's implementation of HP's VUE Visual User Interface.

DON'T BUY X, BUY NT, CONCLUDES XHIBITION'S BIGGEST EXHIBITOR

Attendees at the San Jose's Xhibition trade show last week couldn't help but notice that the largest space at the show was taken up by Microsoft Corp for demonstrating Windows NT. Microsoft has little interest in X - it leaves that to third parties such as VisionWare Ltd and its RISC partner DEC. In fact its position on X was made abundantly clear in one of the papers handed out to visitors. Listed under the heading "Weaknesses of Unix variants", X is described as "providing technology for developing applications using graphical terminals, but is still well behind Windows GUI technology". This meets hardly at all with the X Industry Association's definition of X as "an enabling technology allowing any operating system or application to be transparently deployed across a network". Microsoft castigated X for still using bit-mapped fonts, having poor printer support, its use of a simple pixel graphics model, lack of application integration support (like OLE and DDE), and the fact that it's "extremely costly in terms of network bandwidth and central CPU resource. X is basically just a display technology, while Windows NT is a full featured graphical operating system", Microsoft concludes.

unigram·X

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Uniplex Integration Systems, the UK company's US arm, has found its new president right in its own backyard, naming Lynne Boyd, its long-time vice president of federal operations to the post. For the time being, she'll be in the Washington, DC area, eventually moving to Texas.

Wall Street's **Salomon Brothers** cut its rating of **Tandem Computers Inc** from a "buy" to a "hold" a few days ago, citing weaker-than-expected business in the US and concerns about its upcoming product transition.

After a year-long transition to the job, **Pyramid Technology Corp's** chief operating officer John Chen is now president and a member of the board of directors, reporting to chairman Richard Lussier.

Following the out of court settlement of a sex discrimination lawsuit against company founder Larry Michels (UX No 432), who has resigned from the company, **Santa Cruz Operation Inc** has been sued again, US reports say. This time female plaintiffs are adding accusations of "rampant cocaine abuse" during working hours to their sexual harassment claims, very similar to accusations in the first lawsuit. The suit's accusations go back to 1987 and SCO has raised the issue of the plaintiffs motives in filing the complaint now, describing the accusations as "wholly without merit." The charge says cocaine was often used at SCO buildings and management did little to stop it. The plaintiffs are not saying they were harmed by its use there, but that it violated an implied element of SCO's employment contract by failing to provide a work environment free of conduct that jeopardises the "welfare and safety of SCO employees."

Ceram Inc has the first solid-state Sparc workstation, the TurboStation which uses a TurboCard solid-state caching RAM disk. The company claims the thing outperforms disk-based workstations, delivers better value and scalability than X terminals and offers the security and easy administration of diskless clients. It starts at \$5,900 for a 12Mb, 40MHz CPU with a 40Mb TurboCard, 15-inch 1074 x 768 colour monitor, Sbus SVGA colour frame buffer, keyboard, mouse and Solaris 1.0. Other configurations are available. +1 719 540 8500

Hewlett-Packard Co acknowledges it is taking a leadership position in this COSE thing, saying on the one hand how interested it is in getting it to work and on the other leaving the impression it might fall apart without it.

Uniforum, which COSE has made its communications hub (it distributed the "Process Acceleration" white paper last week) and organiser of the COSE developers' conference this fall, says that the conference will be held October 26-28 at the **San Jose Convention Center** in Silicon Valley and will be called the **Common Desktop Environment (CDE) Unix Developers Conference**. Uniforum says they can't call it COSE because someone else has dibs on the word.

COSE has very nicely divided up the workload so that **Hewlett-Packard Co** was responsible for the initial St Patrick's Day press conference at Uniforum, Unix System Labs had oversight on the "Process Acceleration" white paper and the panels at **Xhibition** last week, **Sun Microsystems Inc** is in charge of the specification outline due later this month and **IBM Corp** drew the short straw for the developers conference in October.

London-based **Caplin Cybernetics Corp Ltd** is supplying a 15-node IBM RS/6000 model 4 parallel workstation system to the theoretical atomic and molecular physics consortium of the Universities of Durham and Newcastle rated at 920 MFLOPS and 1,224 SPECfp92: +44 71 538 1716.

The Open Software Foundation has added **Kapsch AG**, Vienna, Austria; **Mirrors International Inc**, Taipei, Taiwan; **Tecsiel SpA**, Rome, Italy; **SingaLab pte Ltd**, Singapore; **Enabling Technologies Group Inc**, Atlanta, Georgia, and the University of Michigan to its business partner programme, which already includes UK firm **Protek Ltd**.

After a request from **Comparex Informationssysteme GmbH**, reports say **Hitachi Ltd** is considering supplying the German manufacturer - OEM customer of its IBM-compatible mainframes - with Sparc-based systems: Hitachi is developing a 100 processor massively parallel system based upon **Hewlett-Packard Co PA RISCs** (UX No 439).

Scientific-Atlanta Inc, **Motorola Inc** and **Kaleida Labs Inc** say they will jointly develop new technology for the delivery of interactive and multi-media services via cable television networks using **Kaleida's ScriptX** software, **Motorola PowerPC** microprocessors and **Scientific-Atlanta** terminals, networks and servers.

Sun Microsystems Inc's SunSelect named **Dave Power** as its new general manager, replacing **Carl Ledbetter**, who was appointed president of **AT&T Co's Consumer Products Division**.

In another monster downsizing from mainframes to Unix, **Weyerhaeuser Co** has given **Hewlett-Packard Co** multi-year contract worth up to \$25m to implement its next-generation computing systems: **Weyerhaeuser** is moving from its proprietary multivendor computing system to an integrated, company-wide Unix information-technology and communications structure based on open systems.

DEC has named **Robert Sudkamp** worldwide vice-president of its **Automotive and General Discrete Manufacturing Industry Group** market segment, brought over from **HP's Discrete Manufacturing and Federal Government Industry Group** where he was general manager.

Word is that all conference events at the **Software Developers 93** show - due to be held at **Wembley, London** between June 22 and 24 - have been cancelled: although the organisers stated that nothing had been finalised yet, speakers have confirmed that their services are no longer required; it seems attendance levels no longer warrant their presence which casts some doubt on survival of the show after this year.

Seeing a need for increased specialisation, **Merisel US** has reorganised into three reseller channel segments, dealer channel, VAR channel and consumer channel, and added a **Systems Integrator Division** under director **Dave Hutton**. The VAR channel segment also includes the **Advanced Products Division** under director **Jeanne Gorham** offers pre-and post-Unix sales support.

Beside the kickoff conference in California, **COSE** will be holding a **Developers Conference** in Europe, Japan and elsewhere in Asia. It will cost \$995 to attend the **San Jose conference**.

There's a bunch of people who must have been surprised to see their names in the paper last week, especially since they weren't where we said they were or at least where we were led to believe they were. Instead, **Unix International's** and entire executive board sent substitutes to its last meeting in Japan, a fact UI failed to apprise us of. **USL** chief **Roel Pieper** wasn't there either though **UI** talked as though he was. He was out sailing on **Long Island Sound**. His chief lieutenant, **USL** vice president **Mike DeFazio** was there in his place.

Hewlett-Packard Co and **Next Computer Inc** are reportedly working together to make **Next's** portable distributed objects environment **DCE**, **DME** and **CORBA** compatible by sometime late next year. Up on **HP** machines (**UX No 438**), the service will give **Next** powerful servers on which to run objects created with **NextStep**. **Next** is also working on some fairly secret compression technology called **NextTime** for multimedia.

The three year old **Sun Users Group** - independent of **Sun Microsystems Inc** - has filed for **Chapter 11** bankruptcy protection. It was originally part of **Sun's** marketing department but broke away to offer impartial advice on products and technology. Its demise is blamed on personnel turnover, admin problems and an increasingly antagonistic relationship with **Sun**. Three month-old merger talks with the technical **Usenix** group came to nought.

Novell Inc is said to be preparing to embed core **NetWare** protocols - **IPX** and **SPX** - in all future versions of **Unix** and add native **TCP/IP** support to **NetWare** very soon. Communications between **Novell** and **Unix-based** systems should become easier when protocols are shared - **Unix** applications will become **NetWare-ready** and plug and play **Unix** and **NetWare** services may become the order of the day. **Novell** envisages **Univel Inc's** **NetWare-ready Unixware** desktop as the binary reference for **Unix System Labs** code - **ISVs** will look to **UnixWare** for **Unix** application compatibility, it says - whilst **SVR4** and **UnixWare** will share the same source code by this time next year, licensed by **USL**.

Visual Solutions Inc will be using **MainSoft Inc's** **MainWin** Software Developers Kit for porting **Windows** application source code to **Unix** as part of its consulting services to corporate software developers. The systems integrator will use the tool to create a consistent user interface for enterprise applications running across multivendor environments.

Enamoured of **Alpha's** 64-bit architecture and convinced it will contribute significantly to the company's renaissance, **DEC** is back talking about how it's looking forward to a 64-bit version of **Microsoft Corp** **Windows NT**. **DEC's** **NT** chief **Jesse Lipcon** said it'll probably come along in the **Cairo** timeframe, due at the end of 1994 or the beginning of 1995. The code isn't **Cairo** itself, which is 32-bit to begin with, then 64-bit.

Intel Corp is apparently preparing a supposedly easy-to-use colour-code wiring scheme to overcome some of the problems builders, integrators and users are going to have trying to figure out if **P24T Overdrive** chips will fry their particular machine (**UX No 439**). The upgrade part will come in versions - with and without a fan - and with a range of wiring arrangement for different boxes: vendors are are seeing red - or is that green, or blue.

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LAST OF THE 88000s? DATA GENERAL SETS NEW 88110 AViiONS

Data General Corp, the only mainstream system manufacturer still supporting Motorola Inc's 88000 series RISC microprocessor, will next week announce a new generation of AViiON servers, plus an OEMed workstation, based around the semiconductor supplier's latest 88110 part. First up are two- and four-way, 19" rackmounted AV9500 servers which come with from 64Mb to 2Gb RAM, 256Kb cache per processor and 16 expansion slots supporting up to one terabyte of disk. Six- and eight-way versions of the AV 9500 are due in November, with 12 and 16-way implementations set for Spring 1994. The enterprise systems are configured with dual 40Mhz CPU boards, two SCSI II channels, and a 16-way AV 9500 is expected to perform at 1,600 MIPS and 1000 TPC-As - four times the performance of its current high-end eight-way 88100 machine launched last July (UX No 393). Also new are two- and four-way AV 8500 servers aimed at office and departmental processing, which come with up to 10Gb disk and 6 expansion slots. On the desktop, DG is expected to announce Omron Corp's OEMed 88110-based Luna 2001 workstation as its AV 500 (UX No 435). The OEM agreement was signed back in February, and the box is being manufactured by Omron and Omron Data General Corp (the Japanese Data General subsidiary which Omron acquired in 1991) in Japan. Data General says it will develop new high-end workstations in addition. The 40MHz 88110 system is rated at 37.8 SPECint92 and 50.5 SPECfp92, comes with from 16Mb to 128Mb RAM, 425 or 1Gb disk, 17" or 19" 1280 x 1024 colour screens, SCSI II, Ethernet and two serial ports. All the new systems are binary compatible with, and upgradable from existing 88100 AViiONS. They run Data General's DG/UX Unix SVR4 implementation with commercial file enhancements and high availability features. Prices for the servers are expected to start in the \$200,000 - \$300,000 range. How much longer Data General can reasonably be expected to persevere with the seemingly doomed 88000 architecture apparently depends on how Compagnie des Machines Bull SA does with its multiprocessor implementations of the IBM Corp/Motorola PowerPC RISC. DG will watch closely before deciding whether to take that route.

WEITEK UNVEILS SPARCSTATION CPU BOOSTER

Remember last October's story about a planned Sparc upgrade chip that would put a faster CPU core and some on-chip cache in the same package as processors used in Sun Microsystems Inc's workstation lines, meaning they could potentially be sold to most owners of Sparc-based systems? (UX No 405). Well last week, Sunnyvale, California-based Weitek Corp unveiled a \$1,500, user-installable Sparc Power chip, pin-for-pin compatible with Sparcstation 2 and IPX workstation CPUs, which, the company claims, improves application performance by up to 1.9 times. Weitek says the Sparcstation 2 and IPX workstations - both of which are still currently manufactured - represent nearly half of Sun's total installed base, with some 250,000 in use around the world, indeed the IPX workstation already uses Weitek's W8601 integrated Sparc. Sparc Power is a three-layer metal, 0.8 CMOS micron affair, running at 40MHz (80MHz internally) with 16Kb on-chip cache. It's rated at 32.2 SPECint and 31.1 SPECfp against the Sparcstation 2's 21.4 and 21.8 performance marks. Sparcstation 1, 1+ and Sun 3-3/80 users can install a Sparcstation 2 motherboard fitted with a Sparc Power. Shipments are set for 90 days.

USERS SCEPTICAL ABOUT OBJECT "REVOLUTION"

Forthcoming research carried out for the Object Management Group by TechVantage, comparing the predictions of 25 industry experts with the views of 200 IT professionals, suggests that the industry is falling behind the expectations of IT professionals in bringing object technology to market. While 51% of IT professionals said they would "probably" adopt object technology, only 17% were definite, with 36% still undecided. 7% said they would not adopt it at all. The general feeling revealed by the survey is that the roll-out of object technology is proceeding too slowly, and will not live up to the excessive hype surrounding it. A lack of standards and infrastructure, not enough success stories and the complexities of object languages were perceived as some of the main obstacles holding back the undecided portion. There was also a healthy scepticism over claims that objects would reduce software costs. IT professionals are looking for practical tools such as object technology Cobol and operating systems with robust file management, unlikely to be widely available for another few years. OMG spokesman John Slitz said that vendors needed to boost their marketing efforts in order to prepare customers for products likely to hit the market in the 1996-1997 timescale.

IBM, HP AND SUN REACH

NEW AGREEMENT ON OBJECTS

IBM, SunSoft Inc and Hewlett-Packard announced their intentions to collaborate in the field of object-oriented technology last week in a move seen by some as the preliminaries to a joint submission to Corba 2 - the next stage of the Object Management Group's Common Object Request Broker specification, addressing full interoperability issues between the various vendor-specific Corba implementations. The triumvirate will use a set of common distributed object interfaces on each of its own distributed object development programs, IBM's SOMobjects (UX No 440), Hewlett-Packard's Distributed Object Management Facility (DOMF) and SunSoft's Project DOE (Distributed Objects Everywhere), that will allow software developers and information systems managers to create, manage and use applications across multiple computing environments. And separately, IBM and HP's plan to integrate SOM (with its distributed DSOM extensions) and DOMF object technologies into a common distributed computing framework, allowing interoperability between multiple platforms - initially IBM and HP'. Sun and HP have been working together since late 1990 on common APIs, which the Object Management Group does not define down to bit level, while HP and IBM began discussions in January 1992. Talks between IBM and Sun started later, and are not so far down the line. IBM says it is also talking to Hyperdesk and DEC about collaboration. Jim Green of SunSoft was adamant that the effort should not be viewed as a COSE splinter group, although COSE had provided an additional forum for discussions. Object Management Group president Chris Stone says he hopes to have a full Corba 2 specification out by the summer of next year.

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SOFTWARE NEWS

By Alison Hawkings

PEACOCK IS THE OBJECT FOR UNIFACE, UNIFY

Amsterdam, Netherlands-based, Uniface International BV previewed Peacock, the firm's next generation object-oriented application development environment, at its UK user group conference, London, last week. The firm, which says it's still beta testing the tool, expects to introduce Peacock - or Uniface version 6.0 - in a few months. It'll include multimedia extensions and support for Microsoft Corp's Object Linking and Embedding 2.0 (OLE) specification. According to Uniface's UK user group chairman Nigel Heath, future Peacock users will be able to build applications with generic multimedia drivers embedded in the code, which enable audio, video and graphics to be sent via gateways to other applications on distributed networks. OLE 2.0 conformance lets users embed compound documents in different Windows applications. Meanwhile, it seems Peacock is the vogue codename for object developments. Uniface rival Unify Corp has named its similar object stuff Peacock too. It might just have something to do with Uniface's director of corporate marketing, Anu Shuka, who recently held a senior position at Unify.

D&B SETS FIRST SMARTSTREAM APP

Dun & Bradstreet Software Inc has introduced its first SmartStream client/server-based application, HR Stream Flex Benefits for personnel and payroll management. The software, launched at the Human Resources Systems Professional Conference in Washington DC last week, is only on release in the US although a UK version will be available next year, the company says. The product lets administrators develop personnel, payroll, employee benefit policies, limits of coverage and funding sources applications across distributed environments. Interactive voice response and document imaging technologies are also supported. HR Stream Flex Benefits runs under Microsoft Corp Windows at the client end and under Hewlett-Packard Co HP-UX and Data General Corp Avion DG/UX platforms at the server. Available now, it is priced at \$88,000.

OPEN1 FINANCIAL SOLUTION

UK-based Financial Solutions Ltd, Basingstoke, Hampshire, has introduced Open1, a client/server corporate financial and accounting package for Microsoft Windows NT, IBM DB2/6000, Unix and OSF/1. Open1 is a multi-lingual, multi-currency package that conforms to all European Community and international accountancy standards. It works with Oracle, Ingres, Informix and Rdb databases, and supports a variety of graphical user interfaces including X Windows, Motif, Apple Macintosh, Presentation Manager and Windows. Open1's accounting modules have the same look and behaviour across all platforms irrespective of the interface, the firm says. It also supports Microsoft's ODBC, SQL Access Group SQL Access and IBM's DRDA database access specifications. Open1 modules include general ledger, receivables and payables, cash management, capital projects, fixed assets, purchase order processing, sales invoicing and time recording. Future enhancements to the software will include support for Microsoft Corp's Object Linking and Embedding specification and multimedia, Financial Solutions says. Available now Open1 is priced at £1,000 per seat.+44 256 466950.

UNIPALM HAS NEW WINDOWS-TO-UNIX MAIL

Cambridge-based personal computer-to-Unix communications developer Unipalm Ltd has introduced Mail-it 2.0, its Windows-to-Unix electronic mail system which includes support for the Internet Multipurpose Internet Mail Extensions (MIME) and Microsoft Corp's Messaging Application Programming Interface (MAPI) standards. Unlike traditional e-mail packages - which limit users to sending short ASCII messages - Mail-it 2.0 MIME compliance lets users embed and attach files of any size or length to a message including spreadsheets, video, audio and graphics, the company says. Users can also send multiple messages within a single message, multifont messages, and binary or applications files to anyone on the network. It also provides extended character sets for multiple languages. MAPI compliance enables third party products to hook into Mail-it 2.0 messaging services and vice versa. Other Mail-it 2.0 features include automatic checking for mail, message filing and task facility triggers - which perform routine tasks automatically at given trigger events. The software is available next month and is priced from £450 up. Unipalm will also be demonstrating a Windows NT version of Mail-it 2.0 at Networks '93, NEC, Birmingham, next week.

IDE HAS NEW OBJECT MODEL**FOR SOFTWARE THROUGH PICTURES**

San Francisco, California-based, Interactive Development Environments Inc has introduced Software Through Pictures/Object Modelling Technique (STP/OMT), an object-oriented design and analysis tool based on the Rumbaugh methodology. Targeted at the large corporate and scientific and technical markets, STP/OMT lets developers create formal models of designs and analyse data visually on screen. But unlike other methodologies which have very limited notation rules (a notation is the way an object is symbolically represented on screen), STP/OMT has a high level of notation abstraction which gives users a more varied choice of visual representation, IDE claims. Data encapsulated in an object isn't effected when a notation is changed or when development is switched from a different object methodology. STP/OMT's core technology includes a central repository, which stores OMT designs and catalogues tools from supported databases including Sybase Inc's SQL Server and Informix Software Inc's OnLine 6.0; a C++ code generator; a messaging system that controls communications between different IDE and third party tools such as Hewlett-Packard Co's SoftBench and Centerline Software Inc's ObjectCenter; and three table, diagram and graphics editors. STP/OMT is available from September on Sun Microsystems Inc Sparcstations and is priced at \$15,000 - £11,000.

COMPUWARE REVEALS ECOSYSTEM PLANS

Mainframe computer diagnostic software developer, Compuware Inc, Detroit, Michigan, last week outlined its new client/server product strategy and unveiled its plans for EcoSystems Software Inc, the Unix systems management software it acquired last month (UX No 438). After more than twenty years supplying the IBM Corp mainframe market with testing and analysis tools, Compuware is changing direction. In a recent survey of its 6,000 users worldwide Compuware found 50% of customers were asking for more migration tools and client/server related software. 25% wanted tools to enhance and maintain their legacy software and downsize to other IBM proprietary platforms including CICS, OS/2 and AIX. Another 25% of users wanted multi vendor Unix-based systems management and data administration software to build distributed applications. Compuware expects its business to evolve into three different client/server markets. Its key Unix strategy is EcoSystems' systems management software, EcoTools - which manages distributed Oracle systems running across Motif-based Hewlett-Packard Co, Sun Microsystems Inc, IBM, Sequent Computer Systems Inc and Amdahl Corp platforms. Compuware expects EcoSystems to bolster revenues by 30% - 40% this year. Turnover for the year 1992 to 1993 was \$250m. All future product development across the company will be based on EcoSystems' Unix architecture, the firm says. "EcoSystems acquisition has accelerated product schedules in all areas of development. We couldn't have gone client/server without their Unix architecture and their expertise in the open systems market," says Compuware's vice president of product marketing, Buff Jones. A new version of EcoTools is available at the end of the month and support for Sybase Inc's SQL Server will be added by the end of the year and for Informix Online 5.0 the first quarter 1994. The firm is also developing a Microsoft Corp Windows NT version of EcoTools and expects to ship beta versions late next year. At the mainframe level, Compuware has introduced Co-operative Initiative, a suite of client/server maintenance tools for testing, re-engineering and analysing data on workstations and personal computers. They include Pathvu, a personal computer-based re-engineering tool for Cobol. Retrofit, a Cobol source code sorter - which monitors redundant Cobol code and allows programmers to analyse the importance of data without stripping it from the mainframe. Both tools are available now. Other client/server maintenance tools include Xpediter, a code debugger and Playback a graphical user interface-based systems testing tool. They'll be released by the end of the year, Compuware says. The company is also re-engineering its diagnostic and fault testing software for users downsizing to other IBM platforms including IBM CICS, OS/2 and DB2/6000 platforms. Remote Control is the first tool available for OS/2 and CICS systems. It is a remote database configuration and administration tool, which schedules jobs and carries out DB/2 back ups. It'll ship by the end of the year.

HP INTRODUCES ENCINA TP MONITOR

Hewlett-Packard Co will today introduce HP Encina/9000, its implementation of Transarc Corp's Encina transaction processing monitor for its HP 9000 workstations and servers running HP-UX. The firm also announced DCE/9000 OLTP, extensions to its OSF Distributed Computing Environment (DCE) implementation to support extensions for on-line transaction processing. HP licensed Transarc's Encina technology last year as part of its IBM CICS transaction processing monitor deal (UX No 405). HP's CICS/9000 implementation, which is scheduled to ship in a few months, is currently being tuned to support Encina/9000 applications, the company says. HP Encina/9000 is available now and comes in client and server editions. A client version is priced from \$150 up - servers implementations go from \$3,600. Encina/9000 monitor licenses start at \$5,500. HP's DCE/9000 on-line transaction processing enhancements include support for two phase commit; a transactional remote procedure call; logging, locking and recovering for updating or rolling back databases; and scheduling, queuing and load balancing for prioritising transactions. DEC/9000 OLTP is available now. HP is to demonstrate its DCE implementation at Enterprise '93.

TANDEM READIES NEW CYCLONES, GUARDIAN OS

Fault-tolerant specialist, Tandem Computers Inc will introduce a new line of its fault-tolerant Cyclone machines based on Mips Technologies Inc latest R4400 RISC, and an enhanced version of Guardian, its proprietary operating system which includes Posix compliance, by the end of the year. The new Cyclone machines are optimised for massively parallel on-line transaction processing and initially come with from two to 16 microprocessors - but more machines can be added to the system via fibre optics, it says. Tandem claims the boxes will out perform its current offerings the CLX/R and Cyclone/X models by a factor of two. Enhancements to Guardian include X/Open XA interface compliance and added support for Microsoft Corp's Open Database Connectivity gateway. Early developers' kits are available now.

SYBASE ADDS REPLICATION SERVER FAULT-TOLERANCE TO SYSTEM 10

Emeryville, California based Sybase Inc has continued the roll-out of its System 10 next generation of relational database management system engines and tools with the announcement of the Replication Server. Replication Server is claimed to be a form of software fault-tolerance for high-performance and reliable distributed applications. This is a key component of Sybase's competitive positioning against relational database behemoth Oracle; after Oracle's technological catch-up with version 7, which finally brought Sybase features like triggers and referential integrity to Oracle, the latter is seeking to re-set the agenda with a new concept in distributed data for the SQL world. This market, we are told, has suffered a confidence lag from large corporates that would rather trust their secure, core systems and high-volume transaction processing applications to proprietary but proven host technology than relational databases and Unix servers. Vendors like Sybase and the "vowel companies" (ASK/Ingres, Informix and Oracle) have been dumping functionality into products such as the two-phase commit approach to data security over the last five years. But beyond two phase commit and distributed databases (Sybase's dismissal of Oracle7) lie distributed systems. At each node in a distributed network will be a copy of Replication Server which forwards changes in data from a primary to secondary sites through a Log Transfer Manager. An example is a company with London, Tokyo and New York offices. Data needs to be transferred between all three. What if one site's machine fails? Sybase sees a copy of Replication Server at one of the other sites holding all the data that has changed - not tables or databases, but data items. When the damaged site comes on line, the changed data is fed down the wire and like magic all three operations are in sync. This being computers and not fairytale land, this doesn't come easy or that cheap. Controlling the underlying complexity (for example configuration management and component status) is Tivoli Systems Inc' DME Framework Toolkit, and a set of graphical user interface tools. The base cost for the primary copy is \$30,000 and \$15,000 per secondary, available in production fourth quarter for Unixes beginning with the IBM Corp RS/6000 and Solaris. The thing is the result of three years' work in collaboration with eight customers in areas like defence, telecommunications and finance, and Sybase expects it to be accompanied by consultancy.

UNISYS TO DO MASSIVELY PARALLEL PENTIUM MACHINE WITH INTEL'S HELP

The unidentified OEM supplier of a Pentium-based massively parallel processor to Intel Corp's own supercomputer division (UX No 439), is thought to be Unisys Corp. Unisys reportedly intends to build a massively parallel Pentium machine, with formal announcement expected later this month. According to *Computerwoche*, the president of Intel's supercomputing arm, Edward Masi, said his company would focus on selling its RISC-based Paragon computer to technical customers, while its partner would concentrate on the commercial sector. Unisys would say only that it has "signed a far-reaching strategic and technical agreement with Intel. The news seems to confirm our earlier suggestions that the 64-bit P67 was to be positioned as the incompatible successor to the ill-fated 80860 RISC family (UX No 420), and the likelihood of a 64-bit version of Intel Corp's 80860 processor ever coming onto the market has now receded even further.

...CONTRIBUTES SINGLE IMAGE TO USL'S MICROKERNEL EFFORT

Unisys Corp, an early development partner of Chorus Systemes SA, is contributing its single system image capabilities to Unix System Laboratories' anticipated microkernel architecture (UX No 439). The technology permits users and developers to view servers as if they were a single system, allowing applications to be distributed across the network seamlessly for high-performance TP tasks. Unisys will also be contributing object management technology to enhance programming and distributed systems management. In particular it will develop electronic software distribution and installation applications which it will licence back to USL for inclusion in its Tivoli Systems Inc-based Distributed Manager framework. Unisys says pricing and availability of its DM applications will be announced by next month.

IDC BLAMES GERMAN ECONOMY FOR FLAT UNIX GROWTH IN EUROPE

According to market researcher IDC, the European Unix systems market was worth a total of \$7,615,000 in 1992 - up 9% on the previous year. IDC expects the market to experience a similar percentage growth during 1993 - rising to 13% in 1994 - saying this year's flat figure is in part due to the weakness of the German economy, traditionally the driving force of the European Unix market. It notes, however, that there are few signs of any firms abandoning Unix strategies. IDC notes that Spain, also a fast growing Unix market, is slowing too. It reports the overall Spanish IT market declined for the first time ever last year, and says the outlook for 1993 is not good. The Spanish Public Administration Utility, which has traditionally driven Unix sales on the Iberian peninsula is decreasing its IT investments by 12% this year, although IDC says this doesn't mean the Spanish market will actually drop below the average Unix growth for Europe. Sales of Unix-based personal computers are expected to rise significantly and IDC believes the workstation market will recover some of its lost momentum with new Sun Microsystems Inc and Hewlett-Packard Co product cycles. Unix systems accounted for 26% of all European midrange revenues in 1991, 29% last year, a figure IDC expects to climb above 50% by the end of the century. Last year, sales of Unix PCs grew by 4%, workstations by 8% and midrange systems by 11%, giving an overall growth of 9%. +45 3118 6344.

MEIKO PLANS US FLOATATION

Meiko Scientific Ltd, Bristol, Avon-based massively parallel systems pioneer noted for its Transputer- and Sparc-based Computing Surfaces, is gearing up to go public in the US towards the end of this year. The company is believed to have been encouraged by the success of the flotation of Kendall Square Research Inc last year, and like Kendall Square hopes to win business in the commercial rather than just the scientific and technical markets. The company's new machine uses Fujitsu Ltd microVP vector processors, the 64-bit Texas Instruments Inc SuperSparc and proprietary chip sets. The company also plans to use the Tsunami low-end Sparc, which it helped to design.

CANON TO MARKET KENDALL IN JAPAN

The Waltham, Massachusetts commercial massively parallel systems pioneer Kendall Square Research Corp has won Canon Inc as its marketing partner for Japan. "We've known since the start of the company that the second most important market for us is Japan," founder Henry Burkhardt declared, adding that the company had waited until it was financially strong enough and had gained experience installing KSR-1 machines in the more familiar US and European markets. In Japan it will go after car makers for computer-aided design, as well as commercial transaction processing.

CAN FUJITSU DO FOR HYPERSPARC WHAT CYPRESS COULDN'T?

By William Fellows

San Jose, California-based Cypress Semiconductor Corp has claimed performance leadership in the Sparc world with its superscalar HyperSparc RISC, but has been less than successful in gaining design wins against the Texas Instruments Inc SuperSparc. Last month it gave up on the unequal struggle (UX No 436). But for a few whispers about what it may imply about the progress or fate of HaL Computer Systems Inc - the press corp's favourite non-computer computer company - and the more openly held opinion that it looks like an insurance policy safeguarding its ICL plc sibling's investment in the architecture, Fujitsu Ltd's proposed \$23m acquisition of Ross Technology Inc from Cypress, repository of all of the chip company's Sparc work, appears to have been welcomed by most sections of the industry that are concerned about these matters. ICL denies Ross was bought for it by its Japanese parent and claims it is unlikely to get any get preferential treatment, although the two firms' respective engineering teams are expected to get closer on development - technicians from each are already working side by side.

Although Cypress returned to profitability in the first quarter of 1993 after previous losses (UX No 433), Ross contributed only \$3.9m to its parent's \$69.5m revenues, and there was speculation back then that the unit's continued existence in its current form was in doubt because of Sun Microsystems Inc's delayed design-in decision on HyperSparc. The sale of Ross to Fujitsu means Cypress will now concentrate on static RAMs, programmable logic devices and its high-performance niche product lines. The 75 Ross employees in Austin, Texas, will transfer to Fujitsu when the deal is completed, probably by the end of this month. Fujitsu and Cypress are committed to supporting current Sparc customers with both manufacturing and distribution and the two are also contributing \$3m each towards the development of HyperSparc's cache, memory management and multiprocessing technologies for use in architectures that'll implement Intel Corp's P6 processor and other Pentium follow-ons. Fujitsu is a licensee of the Sparc architecture, and has a range of standard Sparc implementations, but does not currently fabricate a device in the HyperSparc class. It abandoned plans for a top-end Sparc in 1990 in favour of variants like SparcLite for embedded applications after deciding that the high-end market would be too small.

Undersized investment

Some Cypress engineers are upset that the firm has cast off its six-year-old Sparc concern to Fujitsu just when the HyperSparc effort seemed to be coming to fruition. However most, including Sun Microsystems Inc, ICL and Ross itself, admit that Cypress "undersized" the investment required to bring HyperSparc to market. It looked at one point as though Ross' plug-compatible competitor to SuperSparc would benefit from a window of opportunity left open by Texas. That company was unable to deliver its superscalar part on time, in sufficient numbers or with the required performance to its principle customer, Sun Microsystems Inc. However, HyperSparc too is late and has suffered its own technical problems. Announced back in May 1992 (UX No 385) and due at the beginning of this year, the part now won't ship in quantity until towards the end of the year.

Wrong-footed

Some lay the blame for HyperSparc's non-appearance at Sun's door. One insider believes that despite its public claims of openness and desire to foster a Sparc-compatible community, "the closed position of Sun constantly wrong-footed" Cypress. The source says the workstation builder's refusal to commit to using the part stymied its development whilst the lack of support for HyperSparc in SunSoft's Solaris operating system has prevented some firms from announcing HyperSparc strategies. "Cypress sold [Ross] because it looked as though Sun would never give HyperSparc the support it said it would, whether by using the CPU or by allowing Solaris to run on it." With Sun apparently unwilling to sell or support the part the source says Cypress therefore "didn't need to sell Sun on the idea." He says Cypress could have employed a different strategy to get its technology adopted, namely touting HyperSparc's performance advantages and selling into Sun's customer base, starved, he says, of the high-performance SuperSparcs.

Nevertheless, Ross' Dave Pulling says the former Cypress unit is "absolutely" still looking for Sun to support HyperSparc - the business "is ours to win or lose," he maintains. "Politics aside, SuperSparc can't be manufactured in dual-channel modules for two CPUs," he says, claiming it is well understood amongst Sparc's technical fraternity that HyperSparc is cooler and more efficient than SuperSparc. He cites HyperSparc's 12 million transistors against the 48 million SuperSparc houses and claims a 15% integer and 40% floating point performance advantage for HyperSparc over over the Texas part. Cypress was responsible for HyperSparc fabrication, using an 0.65 micron process - and final sales. Now Ross will be using Fujitsu's 0.5 micron technique, which means it can get a constant 3 volts throughout the chip, not just on I/O - internal power consumption was formerly 5 volts using the Cypress fab process, says Pulling.

He claims SuperSparc pays a cycle penalty for getting hold of the multiprocessing Mbus, which manifests itself at the compiler and application performance level: applications running on Texas parts require lots of cache memory or multiprocessing functions soon swallow all that is available. Pulling claims Texas has had to decouple cache memory from the superscalar CPU to get it to work and says that this asynchronous link means SuperSparc doesn't run as fast as HyperSparc. However, HyperSparc is still only available in sample quantities from Cypress and 66Mhz modules won't ship in quantity from Fujitsu until around the end of the year. Planned 80MHz and 100MHz HyperSparcs are still in the works, according to Pulling, who says the firm is getting some yield at 80MHz now.

Gemini and Viper

Moreover, he says, Ross is now also working on 0.35 micron Gemini and Viper implementations of HyperSparc that he claims will go well beyond 100MHz. Overall, Ross believes Fujitsu has a better understanding of CPU business than Cypress and says it expects to get close technical cooperation from its new parent on everything it does. HyperSparc modules are currently installed at 12 alpha and beta sites - four of those are in Europe. Indeed, ICL is currently working on four separate projects that are targeted for use with HyperSparc - Pulling says Ross engineers are already "living" at ICL. Industrade AG, Wallisellen, Switzerland; ECS in Dusseldorf and another unnamed site near Munich in Germany are the other European customers.

In the US, would-be HyperSparc supplier, Columbus, Ohio-based Pinnacle Data Systems Inc, is confident that Fujitsu's acquisition of Ross will provide the necessary financial backing required to bring HyperSparc to market. Pinnacle president Bob Henkel says his firm hasn't been able to deliver its promised HyperSparc systems because there is no version of Solaris ported to the the chip yet, not because there is any problem with the CPU. So it is currently restricted to SuperSparc-based solutions - it has just released a new Sparc-based RAID system - and will offer HyperSparc modules when SunSoft Inc delivers the necessary Solaris port.

SunSoft lack of support for HyperSparc in its Solaris Unix operating system for Sparc architectures is a real problem. As it is presently configured, Solaris won't boot up on HyperSparc - indeed "it pukes," according to one commentator. As the boot procedure runs the kernel polls the environment and sniffs out what CPU it is running on, "if it finds non-SuperSparc stuff it goes off into a corner and sulks... ..returning the message 'illegal instruction set architecture.'" All that Solaris needs to run native on HyperSparc is a 38 line kernel patch and 10 line boot prompt patch. The patches are available from the Unix porting operation of the former Interactive Systems Corp still owned by SHL Systemhouse Inc (UX No 418). The patches cajole Solaris into working with more underlying architectures than it is actually programmed to accept. All HyperSparc sites running Solaris currently use Interactive patches obtained together with the CPU from Ross, except for ICL, which is big enough to have done the required porting work on its DRS/NX Unix implementation without help. Other potential HyperSparc suppliers don't have the same R&D resources and are awaiting a HyperSparc-enabled version of Solaris so they can shrink-wrap their solutions.

Sweat

Observers say SunSoft could do the patching job on Solaris without breaking sweat, although Pulling defends the current lack of support, explaining that Ross was still engaged in lengthy debugging cycles whilst SunSoft, which has established its own process schedule for Solaris releases, couldn't wait for it to complete the job. Pulling hopes the patches will be written into the next Solaris port, 2.3, due around October. Although nothing has been signed to this effect, he says Ross is "more confident now than ever" that SunSoft will do the job: "all indications are that HyperSparc will be supported in 2.3." SunSoft admits that technically, HyperSparc support is only a port way.

ENCINA WILL "OVERTAKE TUXEDO," SAYS TRANSARC'S SPECTOR

By William Fellows

With a variety of Open Software Foundation Distributed Computing Environment (DCE) implementations now coming on stream - see page three - Pittsburgh, Pennsylvania-based Transarc Corp believes it won't take long for its Encina on-line transaction processing (OLTP) system to overtake market rivals, such as Unix System Lab's Tuxedo, or NCR Corp's Top End: because "we have bigger partners," says chief executive officer, Alfred Spector. Transarc counts Hewlett-Packard Co, IBM Corp, NEC, Stratus Computer Systems Inc and Hitachi Ltd as supporters, and Spector claims there are four other major vendors who have taken Encina but don't want the fact bandied about. Spector points to Gartner Group figures which forecast Tuxedo will have a 32% share of the Unix OLTP market in 1995, CICS/6000 (based upon Encina) 18%, Encina 14%, Top End 9%, Siemens Nixdorf Informationssysteme AG 7%, other CICS implementation 7%, and other 7%.

Single site

At present Unisys Corp claims to hold 50% of the market for Unix-based OLTP system, with 22 sites actively using Tuxedo. NCR Corp's Top End weighs-in with 15%. Spector can count only one live Encina site, and again that's under wraps. Nevertheless, he says around 100 customers are working on Encina-based systems now, including the UK's British Telecommunications Plc, Japan's NTT, and Charles Schwab and CitiBank in the US. Encina includes seven OLTP modules. A toolkit which extends DCE to support distributed transaction processing. There's a TP monitor and the structured file server - a transactional, record-oriented file system which scales large numbers of users and files without sacrificing performance. A recoverable queuing service for enqueueing and dequeuing of requests - in beta form now with general release slated for December. Peer-to-peer services enable communication between a host OLTP system such as IBM Corp's CICS and Encina applications and an RPC Gateway/SNA provides IBM System Network Architecture connectivity - the latter is already available on IBM and Hewlett-Packard platforms, with a Sun Microsystems Inc version to follow. The Encina server core, Encina base services and DCE base services are also required.

DCE

Transarc's Andrew File System, which grew out of technology developed at Pittsburgh's Carnegie-Mellon University, is installed at around 300 sites, but that will increase rapidly as OSF's Distributed Computing Environment is more widely implemented. DCE calls for an extended version of AFS version 3, known as the Distributed File System (DFS). DFS is one component of the data sharing services DCE provides, the other being an Enhanced File Service. Although DCE developer kits have been around for some time, there are no end-user implementations of DCE - and hence no-end users as such yet - because DFS isn't available. DFS provides crucial file-sharing facilities under Unix, and effectively runs as an application on top of basic DCE services. It allows users to view and use distributed files as a single logical system. Until DFS is in place - IBM is due to release an implementation for its DCE system this month, Transarc's version for Sun will be out by year-end - then DCE remains the province of developers and application builders who don't require commercial, file sharing facilities. The Enhanced File Service includes Episode, a log-based file system which manages file storage on disk; DFS Backup System, a central on-line backup system for data stored in DFS; and Scout, a graphical file monitoring tool.

NT

Transarc is now offering binary versions of its DCE and Encina software for SunSoft Inc's Solaris 1.1 (UX No 436). Spector says DCE for Solaris 2.2 should be ready next month, with Encina for Solaris 2.2 scheduled to debut in September. He expects Sun to begin marketing DCE on its kit as part of the COSE initiative in due course. Transarc has 190 employees and spends some 50% of its budget on research and development. An AFS implementation for Silicon Graphics Inc boxes is imminent, with a Digital Equipment Corp Alpha AXP port due thereafter. Spector says Transarc is also working with Microsoft Corp on a long-term Encina-for-Windows NT project. UK system integrator and OSF business partner, Protek, Maidenhead, Berkshire, will sell and support Transarc's DCE and Encina.

ORACLE, NOVELL UNVEIL THEIR ORACLEWARE BUNDLE...

Novell Inc and Oracle Corp's widely flagged announcement turned out to be an integrated package combining NetWare or UnixWare with the Oracle7 database and a new diary, scheduling and mail package called Oracle Office to create a combination dubbed OracleWare. Technically there is little new here, apart from the messaging and scheduling technology - instead the focus is on ease of installation and management and the seven day a week, 24 hour support that the companies will be offering. The idea is that the network, database and messaging components all have a common installer and the Oracle Office component will have a full gateway to Novell's existing Global Message Handling System. Products will appear in three phases, starting in September with a version based on UnixWare and NetWare 3.X. Around six months later a version based on Netware 4.0 will be released, that will take full advantage of the operating system's NetWare Directory Services to give transparent access to data irrespective of network location. Finally, in the middle of 1994 a new UnixWare-based version will be launched incorporating symmetric multiprocessing support, with technology courtesy of Unix System Laboratories Inc - finally the proud possession of Novell Inc as of last Monday, see below. Unfortunately, only the NetWare 4.0-based OracleWare gets Directory Service's network transparency, but Graeme Allan, Novell UK marketing director, says that a version of Netware for UnixWare is expected later this year, which may incorporate the full Directory Services. Prices will be announced when the products ship, but Novell says that they will be "close to the combined price of the major components." The products will be sold primarily through the two company's resellers, rather than Oracle's direct sales-force. The much vaunted 24 hour, seven day a week technical support will be provided direct by Oracle. The venture is characterised as a "virtual company", giving the advantages of a merger without the messy aspects. And who is the boss in the partnership? - "The customer is boss" answered Oracle to groans from the audience. Both firms were at extreme pains to explain that the deal was in no way a response to the Windows/NT-Sybase tie-up, absolutely not.

..AS NOVELL FINALLY GETS USL

Provo, Utah-based Novell Inc has finally completed its long-gestating acquisition of Unix System Laboratories Inc following a vote of approval on Monday by the Unix keeper's shareholders: Novell is issuing 11.1m new shares for all the outstanding shares it does not already own, a deal that leaves AT&T Co with a 3% stake in Novell, which it plans to keep as an investment; Novell expects to incur a one-time write-off of purchased research and development of about \$270m against results for its third fiscal quarter ending July 31 1993; Roel Pieper continues as president and chief executive of what will be the Unix Labs subsidiary of Novell, and Univel Inc continues to operate from its headquarters in San Jose.

MKS PLANS NEW CONNECTIVITY, SOFTWARE DEVELOPMENT TOOLS

With the likes of Digital Equipment Corp, Hewlett-Packard Co, IBM Corp and Unisys Corp having already developed Posix-compliant versions of their proprietary operating systems using its InterOpen source code product, Ruth Songhurst, vice president of sales and marketing at Canadian Posix and Unix utility specialist Mortcie Kern Systems Inc, Waterloo, Ontario, claims there are a further two or three major US vendors negotiating for rights to the software. MKS expects a deal with Fujitsu Ltd for InterOpen to be finalised soon. MKS has also struck a deal with US publisher Prentice Hall for its Internet on MS-DOS tome. MKS and Prentice believe software and documentation on how to use and manage Internet connections will soon be big business, given that there are now close to 20m Internet users. With all the attention being heaped on common desktop technologies, Songhurst says she'd especially welcome a unified graphical front-end for setting up and managing UUCP and Internet links - still a tricky system admin process under Unix. MKS is now working on some new connectivity software and plans a new generation of packages aimed at reducing the length and complexity of software development lifecycles with tools for producing cleaner, bug-free code. 70% of MKS' business is US-derived, 15% comes from Europe and 15% from the Pacific Rim. Revenue is split 50%-50% between sales of its binary and source-code products. French, German and Portuguese language versions of its software are available and NEC markets a Japanese implementation on its home-market personal computers - a Korean language edition is promised. The nine-year-old, 80-strong MKS did around \$7m in sales last year and expects to turnover \$10m in 1993. +1 519 884 2251. UK distributors include Grey Matter, Systems FX, System Science and Unidirect.

EUROPEAN ROUNDUP

The Sun Microsystems Computer Corp arm of Sun Microsystems Inc has now formally opened a regional headquarters in Moscow: the office will support operations of its intercontinental division in the Commonwealth of Independent States, where it says demand is strong for its Sparc workstations and servers - if there were cash to buy them.

Compagnie des Machines Bull SA has won Cap Gemini Sogeti SA, Sema Group Plc, Steria SA and CISI Ingenierie SA for its Integrated System Development software engineering development system. The four say that they are developing tools for the framework and will have a range of products out from the end of the year. All partners are to market the results.

ICL Plc has now formally announced that it will market Novell Inc's UnixWare desktop Unix on its iAPX-86-based personal computer family: ICL already offers Unix from Santa Cruz Operation Inc on the machines.

ICL Plc has merged its personal computer and mid-range development and manufacturing divisions - the latter being home to most of the company's Unix technology - into a single client-server group. David Mills, former head of ICL's PC operation has been made managing director of the operation - Mike Coote, recently appointed to head-up the mid-range systems division, becomes vice president of server systems in the new set-up. The Bracknell, Berkshire and Helsinki, Finland-based client-server group will start with 2,500 employees and revenues of around \$1bn - £645m.

The executive director of UniForum UK, Roger Frampton, has resigned after four years in the job which was created for him when he left Digitus: it should save the hard-up organisation "a lot of money," he said. The UK Unix group believes the open systems battle has been won, and will effectively abandon its campaigning role, becoming an administration organisation for members run by committees chaired by some of its 12 directors. Oracle UK's Mike Evans will run a marketing operation, Kuwait Petroleum's Graham Smith takes charge of finances. DHL's Ian Bengler, Don Foland of the CCTA and Ray Fleming of British Aerospace are other UniForum UK directors. As such, Frampton will not be replaced, and he also steps down as editor of the group's OpenForum newsletter.

Ing C Olivetti & Co SpA says it shipped 8,300 Unix systems last year - a 48% increase on the 5,600 it delivered in 1991: it reckons that gives it a 7.1% share of the European Unix system market, against 5.8% the previous year.

Transformation Software Ltd, Thame, Oxfordshire, is to sell Tandberg Data A/S's new X terminals in the UK: prices go from £1,420 for a 14" colour unit to £3,075 for a 17" model - +44 844 260261.

Eurographics'93 takes place in Barcelona between September 6th to 10th: +34 3 423 3101.

Slough, Berkshire-based KCIT Ltd is to market Non Standard Logics SA's graphical user interface builder in the UK: +44 753 537222.

UK firm Datapro Computers Ltd, Portslade, East Sussex, has become an authorised reseller for Sun Microsystems Inc kit. +44 273 422413.

LSI Logic GmbH has set up operations in Madrid, Spain. +34 1 367 220.

AI International Ltd, Berkhamstead, Hertfordshire, is to sell Quintus Corp's Prolog tools across Europe as well as in the UK. +44 442 876722

Delaware Computing Inc's Antwerp-based division is to distribute ASK's Manman/X manufacturing system in Belgium: +32 38 29 3411.

ASK Group subsidiary, ASK Computer Systems Inc, has signed up Swedish distributor Enator AB, to market and support Man-Man/X II, its manufacturing software.

Copenhagen firm Dansk Data Elektronik A/S, and Indian outfit Sarabhai Electronics Ltd are establishing a 50-50 jointly-owned venture to take over the manufacture of DDE's SuperMax systems in India, a task formerly undertaken by Sarabhai-owned Org Systems. Meanwhile, Cromenco GmbH is to distribute the SuperMax line across Europe, the Middle East and Africa and will gradually switch its customer base over to the multiprocessing DDE machines.

Berlin, Germany-based, MicroTool GmbH, has introduced ObjectiF, an object-oriented development tool for client/server environments. ObjectiF comprises four components: a central repository, which stores the meta-object models, tools and designs; a set of analysis tools, for creating, manipulating and updating objects and applications; and a C++ code generator. Available now the software runs under MS-DOS, OS/2, Windows and SCO Unix.

Boston, Massachusetts-based, Pilot Software Inc has hired Jeffrey Swanson as vice president of sales for Europe.

Westborough, Massachusetts-based Applix Inc has opened a new subsidiary in Munich, Germany to market and support Aster*x, its office automation software: Michael Scheib, managing director, will head up the operation.

Macclesfield, Cheshire-based JSB Computer Systems Ltd has garnered a further £500,000 in a third round of venture funding from Quester Capital Management Ltd and March Investment Funds - it'll use the fund for expansion in the US and Europe and new product development. The company says its 18-month old Scotts Valley, California-based JSB Corp subsidiary is already contributing to profits. JSB is considering an initial public offering in the UK or US.

Paris, France-based O2 Technology SA's has added support for O2, its object oriented database, on IBM RS/6000s, DEC Alpha OSF/1 and Silicon Graphics Inc platforms.

Gresham Telecomputing plc's transaction processing monitor, TP+, now supports ICL, Hewlett-Packard Co and DEC Alpha Unix platforms. +44 489 582111.

UK systems management tool supplier, Wokingham, Berkshire-based Open Systems Marketing Ltd has brought its Cosmos software on board Oracle's business alliance programme. +44 734 770333.

Embedded software development tool outfit, Santa Clara, California-based Microtec Research, has acquired Swedish real-time software developer and industrial systems integrator Digtailor AB, Stockholm.

Database access firm Business Objects Inc, Menlo Park, California, is now shipping Apple Macintosh versions of its object-oriented BusinessObjects SQL generator: Motif and character editions for Unix are due in July, and work is now underway on a Windows NT implementation, although the firm sees the initial uptake of NT being NetWare replacements rather than server installations. The company's UK arm in Marlow, Buckinghamshire says it has won £1m of orders in the first four months of the year, which almost surpasses its total income for 1992. +44 628 487722.

Whoops! UK firm Insignia Solutions Ltd is of course based in High Wycombe, Buckinghamshire (UX No 438), as well as Mountain View, California.

UK firm User Technologies Ltd, Cambridge, has introduced LanguagePak £1, GNU C and C++ compilers for Sun Microsystems Inc Sparcstations running Solaris 2.1. LanguagePak £1 is available now and is priced at £260. +44 223 302 041.

Informix Software UK Ltd has introduced Informix for OfficePower, a gateway product that integrates Informix's OnLine database with ICL Plc's OfficePower office automation software.

Locus Computing Europe has signed up UK distributor Torchcraven Ltd to market and support PC-Interface, its MS-DOS, Mac and Netware connectivity software.

Excalibur Technologies Ltd, Windsor, Berkshire has signed a UK distribution agreement with Morse Group Plc for it to sell and support Excalibur's PixTex/EFS document image processing software.

In the UK, Farnborough, Hampshire-based Pyramid Technology Ltd has opened new sales offices in Manchester and London and says it is evaluating another in Bristol and a potential headquarter site in Bracknell, Berkshire, home to Pyramid partners ICL Plc, ASK/Ingres, Oracle and Siemens Nixdorf.

UK firm Imperial Software Technology's X-Designer Motif graphical user interface builder will be up on SunSoft Inc Solaris 2 and Santa Cruz Operations Inc Open Desktop 3 from July priced at \$3,500 for a single user license. X-Designer is available in the US from VI Corp, Northampton, Massachusetts, and from Marubun Corp in Tokyo, Japan. IST +44 734 587055.

OBJECT WORLD '93*By John Abbott***SUNSOFT DELIVERS
PROJECT DOE TO CUSTOMERS**

At Object World '93 last week, SunSoft Inc was keen to emphasise the importance of actual product available to its developers after all the talk of Project DOE - Distributed Objects Everywhere - as hitherto unavailable research. At the show, in San Francisco's Moscone Center it demonstrated the first development release of DOE (UX No 440) with a number of demonstrations and a networked trading card game, running on 11 booths around the show. Players could trade cards with each other from any station, seeing their own user environment and current hand of cards follow them around the show. SunSoft also showed Lotus 1-2-3 encapsulated as an object via the OMG-standard IDL interface, allowing changes to be made across the network via both text and graphic displays using SunSoft's OMG-compliant DOMF. SunSoft is already working with a number of large customers with DOE to develop real applications, a process from which it hopes to get valuable feedback: they include a university medical school, government department, a retail grocery store and Arthur Andersons, the consultants.

**NEXT INTRODUCES
PORTABLE DISTRIBUTED OBJECTS**

As expected (UX No 438), NeXT Computer Inc has launched its own answer to the object distribution problem in the shape of Portable Distributed Objects, designed to provide an object-oriented foundation to client-server computing and enable users to build company-wide custom applications using objects across the enterprise. It will also increase interoperability between NeXTstep clients and server environments, and between NeXTstep and emerging distributed computing and object-oriented standards. It is designed to enable users to encapsulate complex network computing resources in re-usable software objects, which NeXT calls ObjectWare, third-party reusable network-based objects created for critical, computational, data- or server-intensive tasks such as telecommunications, data feed distribution, custom analytics, multimedia distribution and rendering, reducing the time to market for complex custom applications, and creating applications that can be easily modified. The company says it will conform to the Common Object Request Broker, Distributed Computing Environment and Distributed Management Environment. Portable Distributed Objects is expected to be available for Hewlett-Packard Co and Data General Corp machines by the end of the year, and pricing will be announced then. The Redwood City, California company also has a special NeXTstep Evaluation Kit that contains both the User and Developer versions of NeXTstep 3.1 for Intel Corp processors, available from May 25 to July 31 at \$300.

**IONA'S ORBIX USED
WITH ICL'S GRAPHICSPower**

Dublin-based Iona Technologies Ltd is touting round its Orbix complete implementation of the Object Management Group's CORBA Common Object Request Broker Architecture, demonstrating its use by integrating the Lotus 1-2-3 spreadsheet with its customer ICL Ltd's Graphicspower package: ICL has been a beta test site for Orbix since January. Orbix is currently shipping for SunSoft's Solaris, and Iona plans to ship a Windows/NT version by the summer. A port for Hewlett Packard's HP/UX is also imminent. In conjunction with Hewlett-Packard and SunSoft, Iona has submitted C++ binding interfaces to the Object Management Group. Iona was formed in March 1991 by Chris Tool, Annrai O'Toole and Sean Baker, all professors at Dublin's Trinity College computer science department.

**ITSKA WILL RETAIN ITS FOCUS
ON OBJECT DATABASE MARKET**

Itaska Systems Inc of Minneapolis, Minnesota, has launched Release 2.2: the fourth release of its Itaska distributed object management system. The Itaska object database originated from the Orion research project begun in the mid-1980s at the Microelectronics and Computer Technology Corporation (MCC): Itaska began commercialising the product in 1989, and began shipping its first products in 1990. It now claims to have between 200 and 300 development customers in engineering, software engineering, CASE, CAD and decision support market sectors. Amongst the increasingly crowded field of object databases, Itaska claims to offer the technically strongest and most feature-rich product on the market, covering such areas as dynamic schema modification, language neutrality, multimedia support, security and authentication, the ability to run across multiple servers and "active" database techniques - where method code is stored and managed in the same manner as data. Release 2.2 adds an application programming interface for new and existing CLOS applications, making the product more attractive to Lisp developers. Itaska already supports objects accessing the C, C++ and Lisp languages, is working on application programming interfaces for the Eiffel object language in conjunction with Tower Technology Corp and Ada with EVB Software Engineering Inc, and has plans for SmallTalk once it finds a partner to work with. Itaska runs on Sun Sparc, IBM RS/6000 and DEC DECstations, and includes a suite of tools including the Active Editor for graphical user interface design. With ten staff, Itaska says it intends to remain a closely focused object database companies, relying on partners to help it provide extensions such as Object SQL and a CORBA-compliant interface. Lockheed's Austin division is using the database in its Falcon decision support system.

Hewlett-Packard Co says that its early adopters of object technology include Chrysler Corp, Florida Power and Light and the State University of New York Institute of Technology. HP's DOMF is currently implemented in SmallTalk and under development in C++. HP was demonstrating the distributed SmallTalk development work and object services it announced back in February in conjunction with ParcPlace Systems.

As the organisers of Object World last week had neglected to set up an Ethernet around the Show, SunSoft Inc was forced to adapt its DOE distributed technology demonstration to work with Motorola Inc's wireless local area network technology on the fly, something it had not tried before.

Objectivity Inc, Menlo Park, California, has released version 2.1 of its object-oriented Objectivity/DB database: the company says the new implementation supports Solaris 2.x, HP-UX, NCR 3300 systems, IBM's XL C++ compiler/6000, CenterLine's ObjectCenter 2.0 and clustered HP 9000 systems. +1 415 688 8000.

INTERSTREAM HAS NEW NFS IMPLEMENTATION

Pittsburgh, Pennsylvania-based Interstream Inc has a new implementation of its eNFS Network File System software which resides on the client and is claimed to offer continued access to NFS data during interruptions due to NFS server failures or overloading. e/NFS/PFS sits between the application and TCP/IP communications software monitoring NFS requests and RPC responses during network and client/server operations, activating whenever intervention is required because of an unresponsive NFS server. e/NFS/PFS includes Interstream's eNFS/Cache client NFS disk caching system and costs \$500 per NFS client. Upgrades from e/NFS/Cache are also available. +1 617 259 1400 call for prices.

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Chicago-based AS/400 application developer, **System Software Associates Inc** is this week expected to reveal Unix versions of its Business Planning and Control System for HP, Sequent and IBM Unix boxes: its got Windows NT implementations on the runway too. +44 276 692111.

Sequent Computer Systems Inc says a new report by IDC gives it pole position for sales of medium scale, multiuser Unix systems (between \$100,000 and \$1m) in 1992 in the UK for the third year running. Sequent increased its market share a few points to just under 30% in the UK - it has 11.5% of the worldwide market, up from 7.6% in 1991 - and now claims to be number two in Europe. In the UK, Sequent, with a 29.2% market share was followed by ICL Plc with 23.1%; Pyramid Technology Corp, 6%, Ing C Olivetti & Co SpA, 5.6%, NCR Corp, 5.5% and Hewlett-Packard Co, 5%. In Western Europe, Sequent, with 11%, was lead by Siemens Nixdorf Informationssysteme AG with 23.4%, and followed by ICL, 10.1%; Olivetti, 9.1%, Unisys Corp, 6.5% and HP, 6.1%. Worldwide figures show Sequent with 11.5% of the market; Pyramid, 7.6%, ICL, 6.9%, IBM, 6.7% and SNI, 6.4%.

Sun Microsystems Inc, king of the Unix workstations, had better watch its flank. **Access Graphics**, its key distributor, has been quietly entertaining NT box peddlers.

ASK/Ingres will introduce Novell Inc Netware Loadable Module versions of its Ingres Intelligent Database at PC Expo later this month. A developers kit for an NLM version for NetWare 3.x will ship in September - support NetWare 4.0 will become available in the first quarter 1994. A NetWare 3.11 NLM supporting a single user costs \$750. Server editions are priced from \$4,000 up.

Motorola Inc's desire to get Windows NT on the PowerPC is explained by its conclusion that NT will dominate the market by 1996-97 dwarfing all other comers including the dwindling MS-DOS and Windows by grabbing a 40% market share of the total 50 million operating systems sold in 1997. It figures Apple will be number two with 20%, Unix fairly negligible, OS/2 still worse and the object-oriented crowd starting to take off and selling around five million units. There are reports **IBM's Advanced Workstation and Systems Division** will get first crack at bringing NT-on-PowerPC machines to market.

Sequent Computer Systems Inc has implemented DECnet Phase IV protocols in its ptx/DNA software that enables file transfer between VMS systems and Sequent boxes - ptx/LAT allows DEC Pathworks PCs and Apple Macs to access database applications running on Sequent machines: both use **Thursby Software Systems** technology and are priced between \$3,000 and \$25,000.

Grafpoint Inc has reduced prices for its PC X server line - X-One for MS-DOS, X-One for Windows, X for Workgroups and X for NT (a future release) - licences now start at \$250 for a single user. +1 408 446 1919

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SunConnect planet is now shipping version 8.0 of its SunLink open systems interconnection (OSI) communication package for Solaris 2.x: prices start at \$2,000.

88open is still in the throes of spinning out that separate company it promised to peddle its validation technology to other consortia backing other architectures (UX No 430). The new operation's name will be **ApTest**, short for Applied Testing and Technology. 88open continues certifying stuff for the 88000, the latest being Pick and Oracle7.

SunSoft Inc apparently intends to ship **WABI** free to anyone who buys Solaris 2.2 and returns the coupon tucked inside. SunSoft president Ed Zander has been quoted as saying **WABI** deliveries on both Intel and Sparc will start in October.

InterOp 93 will be at the Moscone Center in San Francisco August 23-27.

The Unix Reseller Show, the start-up expo held in Dallas, toted up its scores and finds it drew 3,141 resellers and another 912 distributors and manufacturers for a total of 4,053. On the back of its early success, Unix System Labs and the Santa Cruz Operation increased the space they reserved for next year 100% and Sun increased its by 30%. **Computer Associates** president Charles Wang is going to follow in Scott McNealy's footsteps and give next year's keynote.

Silicon Graphics Inc figures 4,000 people checked in at the second annual **Silicon Graphics Expo** last month in California.

Convex Computer Corp has named its chief operating officer Terry Rock president, reporting to Robert Paluck chairman and CEO.

Unix Expo has lined up Roel Pieper president of **Unix System Labs** and Charles Wang, head of **Computer Associates International** to give the twin keynotes at this year's pow-wow September 21-23 in New York.

CMP Conference & Exhibit Group's Client/Server East conference and exhibition runs between August 17 and 20 at the Grand Hyatt hotel in Washington DC. +1 516 562 5717.

The 1993 Usenix Symposium on Mobile & Location-Independent Computing will be held at the Marriott Hotel in Cambridge, Massachusetts on August 2-3.

Long Island-based Sun reseller **ERI Inc** shut down six regional offices in Florida, New York, Connecticut and Georgia and laid off at least 30 people as part of a restructuring move. The company is trying to make it as an integrator and going through hard times.

Ex-Next Computer Inc president, Peter van Cuylenburg, has turned up as executive vice president of operations at **Xerox Corp**, filling the job slot vacant since former Unix chief **Vittorio Cassoni** died last summer.

Rational Inc has released version 1.5 of its object-oriented Rational Rose CASE software for Sun workstations priced at \$2,000 - and IBM RS/6000 implementation will follow later in the year: +1 408 496 3891.

Informix Inc has poached **Cognos Inc** vice president of marketing Steven Sommer who will assume the same role at the Menlo Park, California-based database company.

Dallas, Texas-based **OpenConnect Systems Inc** is offering to connect small AS/400 sites to Unix, VMS or MS-DOS platforms over TCP/IP with packages for 16 or 32 users, priced at \$5,000 and \$6,500 respectively. +1 214 484 5200.

Hewlett-Packard Co last week cut prices on four models of its HP 700/RX X Window System station family by up to 35% or \$1,000: the HP 700/RX 15Ci is now \$2,500, the HP 700/RX 14Ci is \$2,000, the HP 700/RX Mi and Ci are now \$1,900.

Dow Jones & Co Inc's Telerate unit has given **Hewlett-Packard Co** an exclusive four-year multimillion-dollar contract to supply HP Apollo 9000 Series 700 Unix workstations on which Telerate will deliver its financial information and analytic services to brokers and dealers.

Meanwhile, **Pyramid Technology Corp** is to supply **Fidelity Investment Co** with servers running its new Valence Oracle clustering software - the Boston-based firm is downsizing from Amdahl Corp mainframes it currently uses.

IBM Corp is trying to whip up more interest in the US in the RS/6000 Model 340 workstation or server by cutting the price to \$10,000 from the present \$12,000 where people order it before September 10 1993.

IDG World Expo, Uniform's new trade show company, is only now trying to hire a show manager for next year's show along with an account manager to sell exhibit space.

IBM is reportedly flashing overheads in front of analysts that say it's the number one Unix vendor in terms of dollar volume using IDC figures showing it at \$1.28bn versus **Hewlett-Packard Co** at \$1.17bn. It also broke out its Advanced Workstation and Systems Division and called it the 17th largest computer company.

IBM counts five versions of AIX now: the industrial-strength AIX Classic, AIX Lite, the basis of the PowerPC ABI, AIX Run-Time for embedded applications, AIX Cluster with local shared memory and AIX SMP with full parallel threading, parallel kernel services and parallel I/O.

IBM is reportedly talking about a four-way PowerPC 620 symmetric multiprocessor for early next year with two processors to a card and shared memory. It thinks the thing could do 2000 TPC-As. It seems to figure symmetric multiprocessing up to a 6-way, then PowerPC-based clusters from 8 to 32 processor. After that the Rios 2-based Power Parallel line takes over.

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THE RUSSIANS ARE COMING! THE RUSSIANS ARE COMING!**SYSTEM SIX TO CHALLENGE SYSTEM V**

Microsoft Corp isn't the only one out gunning to take over the Unix space. A group of Russian scientists at INEUM, understood to be Russia's central agency for all computer technology below the mainframe, have been designing and writing code to out Unix Unix for the last 10 years. They are building an operating system, styled Usix, under contract for a US start-up in Golden, Colorado called System Six Inc. Both the name of the code and the name of the company indicate they hope to fall heir to the Unix mantle. Ironically, Unix System Laboratories is believed to be polishing a deal with Russia to get SVR4 officially sanctioned on some level. What the INEUM/System Six Russians have reportedly produced is a fully symmetric multiprocessing real-time multiuser Unix-like object-oriented microkernel compliant with the Unix SVR4 SVID and Posix standards that runs in under 2Mb of memory with several users logged on. It will reportedly boot from a single floppy containing utilities such as ls, cp, mv and mount. The Russians, famed for their reverse engineering, have given System Six a contractual undertaking that Usix owes nothing to System V itself, that they have neither seen it nor used it, and are maintaining a clean room. Usix however promises to be 100% binary compatible with the SVR4.2/386 kernel. System Six claims that SVR4.2/386 shrinkwrapped packages that don't require kernel-linked device drivers will execute on Usix without recompilation or modification in spite of the fact that Usix is internally different from SVR4 and not based on a license from Unix System Laboratories. Being free of USL code and the taxes that go with it means System Six can attempt a new bundled pricing model with its first commercial release in October. According to sales and marketing vice president Ron Baldwin, formerly Zenith Data Systems business development manager, System Six is tentatively considering listing a single-processor two-user system at \$375 and single-processor multiuser system at \$800. The MP system would go for a flat \$2,400 list and cover an unlimited number of CPUs. Other functionality would be separately priced with TCP/IP costing \$75, X Windows \$150, NFS \$250 and its DOSix, its homegrown Windows and DOS applications translator, \$100. The development system would be free except for reproduction rights which would cost \$50. It intends to pursue multiprocessor and real-time OEMs along with resellers, distributors and systems integrator. System Six will not sell to the end user.

PYRAMID READY TO JOLT HIGH-END INTO LIFE

The next stage of what Pyramid Technology Corp says is its planned transition to the high-end of the market will see the Mountain View, California firm wheel out a new range of systems in July based upon Mips Technologies Inc's R4400 MC RISC, which is optimised for multiprocessing (UX No 409). Dubbed Jolt, or just our latest technology, by Pyramid UK - US suits prefer the less colourful corporate information servers - the machines will be configured with from 2 to 16 CPUs initially and ship in October. Although binary-compatible with Pyramid's existing high-end, the Mips R3000-based MIServer ES series, which goes to 768 MIPS with 24 CPUs, Jolt systems use a new bus architecture to handle the 1,600 MIPS performance Pyramid claims the new systems can deliver. The bus has also been designed to accommodate new RAS - IBM speak for recovery, availability and service - enhancements that Pyramid has developed for the systems: it's already licensed the bus technology to ICL Plc (UX No 419). Existing Pyramid systems can move up to the new bus and CPU combination, a task described as a "fork-lift" upgrade by the company. Individual Jolt systems will use 100MHz R4400 MCs initially, moving to the 150MHz, 126 SPECfp89 iterations soon after. They'll come with up to 4Gb memory and a terabyte of disk. Up to four Jolts can be strung together using Pyramid's new Oracle Corp-derived Valence clustering solution, supporting 4,000 users. System prices should remain within Pyramid's current £28,000 to £1.5m price bracket, although customers are likely to face higher charges for software and other value-added solutions. Pyramid's Fujitsu OEM win, new government contracts - details page seven.

HP PLUGS GAPS WITH SIX NEW BUSINESS SERVERS

Hewlett-Packard Co will today flesh out gaps in the mid range of its HP 9000 Series 800 PA RISC business server line with six new uni- and dual-processor models in G, H and I classes that look to be positioned against Sun Microsystems Inc's recently announced Sparcserver 1000 line. The new G60, H60 and I60 systems use single 96MHz PA-7100s - the G70, H70 and I70 are dual-CPU symmetric multiprocessor machines. With from 32Mb to 512Mb RAM, 500MB to 100Gb disk and four I/O slots, the G60 starts at \$50,000. The H60, with from 64Mb to 768Mb RAM, 1Gb to 186Gb disk and eight slots is priced from \$83,000, whilst the I60 starts at \$108,000 with from 64Mb to 768Mb RAM, 4Gb to 228Gb disk and 12 slots. Each uniprocessor is rated at around 280 TPC-A transactions per second. The dual-CPU G70 comes with from 32Mb to 512Mb RAM, 500MB to 100Gb disk, four slots and is priced at from \$76,000. The H70, with 64Mb to 768Mb RAM, 1Gb to 186Gb disk and eight slots starts at \$109,000, whilst the \$129,500 I70 comes with from 64Mb to 768Mb RAM, 4Gb to 228Gb disk and 12 slots. The H70 configured with 128Mb RAM delivers a claimed 411 TPC-A - \$6,686 per transaction - besting, HP says, Sun's 400 TPC-A, eight-way Sparcserver 1000 and NCR Corp's eight-CPU 3550 offering. All are configured with HP-UX, are on order from July with ships due in October. Upgrades are available via board, backplane or chassis swaps. HP's top-end corporate business servers, can accommodate up to 4 CPUs, but the firm seems to be awaiting market response before adding quad-processors at the mid-range.

SUN'S NEW GRAPHICS BOXES

Next Monday, Sun Microsystems Inc will turn its attention to the graphics market with new Sparcstation 10TurboGXplus, ZX and 10ZX models, which are pitched directly against Hewlett-Packard Co and Silicon Graphics Inc boxes, plus new imaging and video subsystem technologies. The Sparcstation 10TurboGXplus - effectively a Sparcstation 10 with a TurboGX Sbus accelerator - offers double buffering, a million two-dimensional vectors per second performance and 1,600 x 1,280 screen resolution. The box is aimed at mid- to low-end CAD/EDA applications: prices start at \$2,000 above the cost of a Sparcstation 10. The Sparcstation ZX is based on the existing LX unit and delivers a claimed 290,000 triangle meshes per second performance. Sun says this outperforms HP's 715/33 24Z - at 100,000 - and SGI Indigo XS/24's 50,000. The Sparcstation 10ZX offers the same three-dimensional features as the ZX which is based on a Sparcstation 10 as opposed to an LX. The two are aimed at high-end applications including molecular modelling and scientific visualisation. As well as the Goraud shading, 24-bit double-buffered colour and z-buffer, Sun says we should be impressed with its dynamic tessellation of NURBs. Apparently the system can dynamically alter the number of triangles used to render different parts of an object, using fewer triangles for less complex parts, enabling faster rendering and animation. The ZX and 10ZX use an accelerator that takes up two Sbus slots and are priced at from \$20,000 and \$28,750 respectively. Sun also has a new ASIC, codenamed SX that will be integrated into future workstation memory subsystems and deliver a claimed 100 fold performance benefit over current imaging workstations and Apple Mac systems. Sun says the ASIC, targeted at colour pre-press, satellite and medical imaging applications, will allow users to manipulate larger and more complex images. Kodak, ERDAS, CEMAX and AVS are using SX prototypes for porting and testing. In addition, Sun is working on a new Sbus-based video compression board dubbed SunVideo that can capture and compress images at 30 frames per second, aimed at low-cost digital video and multimedia applications.

SOLARIS 1.1 FOR CLASSIC, LX - ALPHA PORT TOO?

SunSoft Inc will debut a cut-down version of Solaris 1.1, the BSD-based SunOS Unix on its Sparcstation Classic and LX models at PC Expo in New York this week. Sun's entry-level units have previously only been available with Solaris 2, incompatible with applications developed for older SunOS system software. SunSoft's move was apparently prompted by users, unhappy at being forced to use Solaris 2 and plans by a group of Japanese firms to do the job themselves. Meanwhile, despite its earlier assertion that it would not do business with DEC, the UK's *DEC Computing* reports that SunSoft has a version of Solaris up on DEC's Alpha AXP RISC in its labs "running like a bomb." DEC would not confirm reports that it paid SunSoft for the port, though SunSoft was quoted saying release dates depended on market demand - "if any."

X IN TRANSITION - RELEASE 6 ROLL-OUT AS MIT CALLS IT A DAY

by John Abbott

When the X Window system became an overnight success six years ago and just about all the big vendors adopted it as the basis for their graphics and windowing, it left the Massachusetts Institute of Technology in an embarrassing position. Here was an interesting research project that could now command big money backing from the industry, and at the same time needed new levels of support now that it had escaped the confines of academia. MIT's answer was to sponsor the formation of a consortium that could be industry funded. The result was the MIT X Consortium, which opened its doors in 1988 under the directorship of "Mr X" - alias Bob Scheifler, the principal architect of the X protocol and before that a designer on the Argus distributed system and CLU programming language at MIT. Unlike other consortia, this one chose not to impose licensing fees onto X users, relying for its funding on membership dues and using only a small staff. Many of the innovations in X since then have come from member companies, who took their X sample source from the MIT X Consortium and then went off to tighten up the code for commercial use.

On the whole things have worked out well, with the X Consortium and X in general remaining vendor neutral - despite some heavy involvement from individual companies, particularly DEC, and an initial reluctance to get involved from Sun Microsystems, which preferred its own Postscript-based News system. What was lacking was a consolidated marketing and promotional programme, a role which the newly formed X Industry Association (XIA) is to take on, and a long term vision about what should and should not be included within X. Such planning has become more important as the use and scope of X has broadened, but also as Microsoft's Windows becomes ever more pervasive. The two achieve different jobs and can co-exist to some extent, but perception can be as important as technology, and X must define its purposes carefully if it is to survive the onslaught.

So now the consortium is to be spun off into a separate organisation under the new leadership of Luther Abel, a veteran graphics developer who has spent the last two decades working at companies such as DEC, Applicon, Via Systems and Data General Corp. Bob Scheifler won't be spun off with the consortium, and plans to go back to non-X related research at MIT. The new X Consortium, says Abel, will work with the same business model as the old: "If it works, don't break it", he says. But Abel's task is to keep X in the lead as the mainstream client/server windowing/graphics standard, pay more attention to its strategic direction, work with the XIA, and define just what goes into the next releases, specifically X11 Release 7. This year he must organise an orderly move away from MIT, a doubling of staff and the roll-out of the alpha version of X11 Release 6, all by year-end. The beta and final versions of X11.6 will take place next year.

Proxy

Luckily for Abel, the departing Bob Scheifler has already overseen most of the development of X11.6 and at the Xhibition conference a few weeks back he outlined the main features likely to appear. These include LBX, a low-bandwidth version of X which utilises a proxy X server close to the client that can be connected via high bandwidth link, allowing the remaining distance to the real X-server to be made over serial or wide-area network links. X-specific compression utilities and compression techniques are also part of LBX. Enhanced XIE rendering services, with a reduced subset package for document image processing small enough to be run locally on an X-terminal is promised - a feature particularly useful for incoming faxes.

Other areas outlined by Scheifler include graphics synchronisation extensions for video, animation and real-time use, a screen saver extension providing Macintosh style flying toasters and fish on X-terminals, X-test extensions, enhancements to the PEX (PHIGS Extension to X) graphics standard and support for deep frame buffers required for heavy 3D graphics work. The Kerberos security mechanism will be integrated into the core X protocol, the X Server Xlib and (to some extent) the Xt toolkit will become multi-threaded, internationalisation support will be enhanced, and the first features of the Fresco C++ and structured graphics toolkit extensions should appear. Conformance to the Object Management Group's CORBA standard is planned. It's not yet clear whether the Consortium's drag-and-drop mechanism - said to go far beyond the functionality of the current Motif drag and drop mechanism - will be ready in time, the fall-back position being the OSF code.

Abel is responsible for the development of X beyond Release 6. He says that although X11.R7 has yet to be defined, it is possible to speculate on at least some of the areas where additions will be made. One will be the inclusion of a Display Postscript extension, something that was once slated to appear in R6 but was held back due to a lack of development resources. The new generation Fresco toolkit should also appear in its fully fledged form. PEX version 6, reconciled with the final PHIGS+ standard and including advanced rendering, better performance and more extensibility will be included, but may cause unease as it's a compatibility break with Pex 5. The Consortium says it "is striving for compatibility". Support for audio and compound documents is also in the pipeline. Many of these features will be made window system independent, so that development work can also be re-directed to work under other windowing systems such as Macintosh and Windows.

At the insistence of its current staff, the X Consortium will remain in Cambridge, Massachusetts: it is already a legal entity and Abel is currently looking for office space with the intention of moving by the Summer. "It's Cambridge versus the rest of the world to our people" he says. "Even out to route 128 is the rest of the world." Yet X may have to look beyond the confines of its own little world to survive the competitive pressures of its next six years.

MACINTOSH PIONEER JOINS SUNSOFT AS GUI EVANGELIST

Bruce "Tag" Tognazzini - who headed up both the Apple II and Macintosh human interface efforts - has joined SunSoft Inc as Distinguished Engineer, Human Factors Engineering - in effectively acting as evangelist for Sun's human interface efforts. He is currently shooting a video called FutureVision, an attempt to show how the graphical user interface might evolve over the next 15 years - but in less optimistic mood he says that judging by the last nine years (ie since the Macintosh), nothing at all might happen. Tognazzini says that one of the mistakes Apple made was to make the Macintosh trash can swell up when it has something in it. The whole idea of the trash can, he says, was that users could throw away files but still be able to retrieve them after a reasonable length of time. "Now they say 'Oh, the trash can's in pain' and empty it out straight away, all the files are gone and productivity is blown away".

According to one source, Sun Microsystems was at one stage planning to launch its first X-terminal products at the Xhibition trade show a few weeks back, but changed its mind and pulled out.

BRISTOL AND DATAFOCUS GET TOGETHER

Bristol Technology Inc is partnering with DataFocus Inc, authors of the Unix-to-NT migration tool NuTcracker (UX No 438), in a deal that will make DataFocus the first Wind/U-certified porting center. DataFocus is licensing Bristol's Wind/U toolkit and will service Microsoft Windows developers who want to port to Unix/Motif with it. The agreement will help Bristol focus on its Red Baron project with Insignia Solutions improving their Windows-on-Unix technologies (UX No 433). DataFocus is offering a fixed-cost initial port called QuickStart. It will port and demonstrate a portion any Windows application as a proof of concept in three weeks for \$15,000.

NOVELL TO REVEAL HARDWARE- OPERATING SYSTEM INDEPENDENT APPLICATION DEVELOPMENT SYSTEM

Shooting across Microsoft Corp's bows, Novell Inc is expected to reveal a new Network Application Development Strategy today, Monday, at the core of which is AppWare, technology derived from its recent acquisitions and investments. AppWare is claimed to allow developers to create applications using object-type building blocks that will run on Unix, OS/2, Macintosh, MS-DOS and Windows. AppWare uses Serius Corp's visual programming environment and Transformation Inc's application programming interface plus other tools and libraries as well as back-end network and application services from NetWare. Novell has also invested in HyperDesk Corp - and is to bundle the company's Distributed Object Management System with NetWare - and has struck alliances with PowerSoft Corp and Object Design Inc. With AppWare on the outside, Novell will provide operating system and hardware-independent middleware. First AppWare tools are expected within 90 days.

BIG BOOST TO HURON, AMDAHL IN ELECTRONIC DATA PACT

It turns out that last week's agreement to merge its Huron applications development and production environment with Electronic Data Systems Corp's software engineering products - and to put the two development laboratories - one in Toronto, the other in Dallas, into the Antares Alliance Group venture is a very good deal for Amdahl Corp, which retains an 80% stake in the venture - see page six. At a stroke Huron acquires the credibility of the EDS endorsement, particularly as the General Motors Corp company as its standard development environment in-house and for users.

OBJECTS: ONTOS, CINCOM AGREE JOINT MARKETING PACT

Wedding object technology to SQL databases, Ontos Inc, Burlington, Massachusetts and Cincom Systems Inc, Cincinnati have agreed joint marketing of Cincom's Supra Server SQL relational database and the Ontos DB object database and development tools. Applications written for Supra are portable across all major Unixes and MVS mainframes. Adding the Ontos Studio interactive front-end development tool and Ontos DBDesigner interactive visual database schema designer and browser adds object tools to Supra Server's development facilities.

OMG REQUESTS NEW OBJECT SERVICES

The Object Management Group has issued a second Request For Technology for Object Services - specifications that are designed to standardise services, distribution, passing, linking and embedding of objects within distributed environments. It expects to release first details in November. The proposed specification is similar - but at a higher level of abstraction - to Microsoft Corp's Object Linking and Embedding 2.0 specification, which is Microsoft's object stepping-stone technology from Windows to Cairo via the Windows NT system (UX No 375). The OMG has currently defined 30 application programming interfaces for specification. They cover a variety of object services including database concurrency control, externalisation, object relationships, time, transactions, security, query properties, event notification, start-up services and persistence. Each interface will be compliant with OMG's interface definition language (IDL), it says. The first four specifications, which OMG expects to ship by November, include a transaction interface to support atomic execution of operations. Security to support access control on objects. Data interchange, which defines the exchange of some or all of an object's visible state between two objects and concurrency control, which supports concurrent access of one or more objects by other objects. Other specifications will be released in eight months lifecycles after November, says OMG president Chris Stone. A letter of intent to respond to the RFT must reach the group by August 20. But most technology submissions are initially expected to come from Sun Microsystems Inc's 20-strong consortium, JOSS (joint object services submission), which put forward object services proposals to OMG in February (UX No 423). Nonetheless, there will be room for other firms specialising in object persistence and Microsoft Corp's OLE technology would also be welcome, says OMG president, Chris Stone.

HP TAPS SYNON TO HELP IT RAID AS/400 BASE

Hewlett-Packard Co has enlisted Synon Corp's help in plundering the IBM Corp AS/400 base for applications for its HP 9000 Unix systems. Synon/Open, a Unix generator option for Synon's AS/400 software-development environment, will provide users with automatic code generation and application customisation specific to HP 9000s. Using Synon/Open for HP-UX, some 5,000 application developers and customers will be able to run character-based IBM AS/400 applications on HP 9000s without change or additional programming resources, the partners claim. Synon/Open has built-in support for Oracle and automatic Cobol language generation. It ships fourth quarter.

COSE - NO ORGANISATION, NO MEMBERS, NO NAME...
Trademark rights to the COSE name belong to an unnamed company, supporters of the initiative were warned by IBM Corp lawyers last week. They can't go with common open software environment either apparently, so they'll just have to come up with something else: ACE II anyone? The news throws arrangements for the Uniform-sponsored COSE developer conference in October into a quandry. COSE can't even use CDE for its common desktop environment - that's Oracle Corp's Co-operative Development Environment.

CLARKE + TILLEY GOES TO DST

Financial software and services specialist DST Systems Inc of Kansas City, Missouri has paid around £11m in an agreed offer for Cheam, Surrey-based Clarke + Tilley Ltd. DST already had a small stake in the UK company, acquired when the two set up a £2.25m joint venture last year. The deal is essentially a geography for technology swap; DST is using Clarke + Tilley to give it a boost into the UK and continental markets, in return for which the team from Cheam gets access to image processing and other capabilities, which it will integrate into its existing software. Clarke + Tilley supplies multi-currency/multi-asset investment management software and has just embarked on a growth programme that saw it open offices in South Africa and Australia. Recently announced results for 1992 saw pre-tax profits rise 69% to £556,000 on turnover of £5.1m. Meanwhile DST, which supplies mutual fund - unit trust - processing systems in the US is projecting revenue over \$300m for 1993. Clarke + Tilley managing director Mike Winn will be staying on as managing director of the UK end and says that he is planning on further growth and does not expect any redundancies following the take-over.

FUJITSU ADDS ACCELERATOR AP1000 PARALLEL SPARC BOX

Fujitsu Ltd has developed an accelerator device for its Sparc-based AP1000 parallel processor. The Numerical Calculation Accelerator Option, consists of specially designed chips - Fujitsu's MB92831 and 4M-bit static RAM memory. The AP1000 is based on Sparc chips, up to a maximum of 1,024 of them. In a configuration of 512 processors, Fujitsu says the accelerator option increases the processing speed by a factor of 18, to reach 542 cycles per second. Each Accelerator works for two processors. Shipments are to start from January next year. While companies such as NCube Inc and Thinking Machines Corp already have commercial parallel processors on the market, in Japan both Fujitsu and NEC Corp have preferred to invest research time in building their own versions. Fujitsu aims to target research institutes.

JSB LANDS £500,000 IN NEW FUNDING

Unix software developer JSB Computer Systems Ltd, intends to expand further into the US and Europe with the help of venture capital investment to the sum of £500,000. The cash will also be used for developing new products - although the group currently spends between 15% and 20% of its turnover on research and development - and to support the move to larger headquarters in Congleton, Cheshire later this year. JSB is currently based in Macclesfield, Cheshire. This is the first time that Quester Capital Management Ltd has taken a stake - some £400,000-worth - in the firm, but the second time for March Investment Funds. March first got involved in October 1990, when it put up £400,000 for an undisclosed shareholding. More than 60% of the founders and staff currently own an equity share too, but this latest deal will increase it to more than 80% - following an internal share offer for employees and a stock option plan for management. JSB will use the money to increase its distribution network and sales and marketing activities in both the US, where it generates 35% of its total turnover, and Europe, which currently accounts for another 20% of sales. Some 40% comes from the UK, and the remaining 5% from "the rest of the world".

SUNPRO EXPLAINS THE PARALLELISATION GAME

By William Fellows

To be able to take full advantage of Sun Microsystems Inc's latest multiprocessing technologies - its multiple SuperSparc RISC CPU workstations and servers, plus the multithreading support now built-in to the Solaris 2.2 operating system - users and independent software vendors need to optimise their applications for parallel execution. The greater the level of code optimisation achieved, the greater the performance benefits that should be derived. Sun, of course, is keen to spell out the raw performance benefits that can be achieved by running existing software unchanged - as it ably demonstrated at last month's Sparcserver 1000 launch. Systems with multiple CPUs running Solaris can execute several applications in parallel. That's fine for small, or non-CPU intensive applications, but unless software can be broken down into separate components that can each execute across different CPUs at the same time, then buying an eight-way Sun box and running existing software without optimising the code where possible is like buying a V8 sports car and only running on a couple of cylinders. The problem is that although the multiprocessing machines and multithreaded system software has been announced and is already becoming available, none of the 7,500-odd applications now claimed to run on the Sparc RISC are optimised to take advantage of this combination of features. Indeed, according to SunPro's field marketing manager for North America, Denise Lahey, it'll be at least six months before the first re-tuned packages begin to come on stream.

To enable end users and independent software vendors (ISVs) to bring optimised software on to these latest Sun technologies, SunPro, Sun's compiler and language planet, is developing a range of automatic parallelising compilers. The unit emphasizes that parallelising code using these compilers will speed up some applications, but not all. They'll be particularly suited to programs with large loops and compute-intensive routines. ECAD, MCAD and financial software can benefit most, SunPro says, although each application will need to be tested against the compilation techniques to see if they'll gain enough from parallelisation to make re-architecting the software a worthwhile investment. Parallelising compilers are for "people who either don't want to write threads into their software and would rather get the compiler to do it, or those who want to take advantage of multiprocessing but who don't have optimised applications." Unlike other Sun compilers, the automatic parallelising stuff is its own creation. Most of the work will be done inside a core optimiser module which will be migrated to create versions of the compiler for a range of programming languages.

Treatment

First out of SunPro's bag is MP Fortran, already available under an early access programme from Sun, which goes on general release from November. Fortran software is the first to get the parallelising treatment: A, because its where the largest performance increase benefits are possible, due to the nature of Fortran programme construction, and B, because that's where the greatest demand has come from, says the firm. Although C, C++, Fortran90 and Ada versions of the optimiser are in the works - Micro Focus Plc is now responsible for providing Cobol technologies on Sun platforms - C and C++ software won't benefit a great deal from parallelisation because of the problem with pointers in those languages, and the fact that it is not possible to make assumptions about the C and C++ code as it is in other languages. For C, SunPro will offer assisted automatic parallelisation, where the user or developer will have to tell the compiler when pointers are to be ignored.

Although ISVs will use the compilers to develop multithreaded, multiprocessing versions of their applications, SunPro expects end users to adopt the technology much quicker. The firm isn't prepared to divulge examples of either end users or ISVs who are already undertaking this work, except for Mentor Graphics Inc, whose CAD/CAE software was used to demonstrate the advantages of multiprocessing at the launch of the Sparcserver 1000 series. In any case, the multithreaded version 2.2 of Solaris only started shipping last month - that also won't support more than eight CPUs until version 2.3 is delivered later this year. SunPro claims it's easy to tailor the compiler technology for the target Sparc system, you just tell it at the beginning how many CPUs it will be running across. Parallelising compilers will not always be enough to do the whole job in many cases, however. Often the developer will have to go into the code and see which bits didn't get parallelised and try and figure out how they can get included in the process. Further levels of optimisation will be possible using other support tools SunPro is promising in the areas of loop-level analysis, performance analysis, threads and lock security assessors. Indeed, SunPro advocates that parallelising and multithreading optimisation be undertaken in stages - first separate out loops for parallelisation, then if that works, multithread the software to see if that adds any further benefits. Multithreading is more work because of all the locking involved, where the input to one instruction is dependent on the result of another being executed at the same time.

SunPro is more guarded about support for multiprocessing Intel Corp iAPX-86 machines running Solaris x86. It says it will move the optimiser over to Intel in time, though that isn't expected to be any time soon. It can't say how well the parallelising technology will work on the CISC CPU because the optimiser is apparently very architecture-dependent. The multithreading extensions recently added to Solaris in version 2.2 won't appear in Solaris x86 for some time anyway, and SunPro expects to be at least a year behind SunSoft's efforts. There will eventually be versions for all platforms supporting Solaris, such as PowerPC, it promises, plus others too. Indeed, SunPro has already made some of its compilation and language tools available for Univel Inc's UnixWare - ports to other Unix and non-Unix operating systems are expected soon. Also expected are tools to support compliance with the Common Open Software Environment specifications, which are due at the end of the month. COSE will bring changes to the graphical user interface on Sun machines that will need SunPro support, although customers will have to migrate those applications they have developed themselves to COSE, if that's a direction they wish to take. SunSoft is currently using IXI Ltd's Motif toolkit, but will eventually move to use its own implementation. SunPro would like to see changes therein, especially in the areas of three-dimensional graphics. It wants COSE's common desktop environment to be configured to draw users' attention towards the useful things on the screen, rather than to visually appealing but ultimately less useful iconography. SunPro also thinks its high time that Sun's ToolTalk messaging service - part of COSE - got a unified interface mechanism. At the moment the different components of ToolTalk each come with their own access methods.

Beyond multiprocessing, multithreading and COSE, SunPro will also be responsible for providing tools to help users and developers make the next quantum leap that Sun has signalled - from Solaris 2.x to the object-oriented Distributed Objects Everywhere (DOE) environment, previewed a couple of weeks ago (UX No 440). Tool support will certainly be "interesting," says SunPro technical specialist, Hank Shiffman: the point is that with objects and DOE "you have to understand much more than what you are actually working on," he says. Sun appears to have enough of a job on its hands just getting users to upgrade from Solaris 1.x releases (SunOS), up to Solaris 2.x, although once you are there, SunPro says moving from Solaris 2.1 to 2.2 isn't too problematic.

ACT TO SAIL PAST LOGICA WITH BSI BUY FROM NYNEX

ACT Group Plc has not looked back since it sold its personal computer business to Mitsubishi Electric Corp for a handsome £39m, and last week it announced the big one - it is paying Nynex Corp £93.5m for BIS Group Ltd, the former Business Intelligence Services Ltd, in a deal that will turn ACT into a £258m-a-year company - making it about 20% bigger than Logica Plc. Nynex, the New York and New England Baby Bell agreed to buy BIS, best-known for its Midas banking software, in 1986 for shares worth £75m - so it comes out with a small profit on the deal; at the time, the London financial software and management information services company had planned to float on the London Stock Exchange, but the owners decided to sell out to Nynex instead. BIS was then forecasting £6m pre-tax on turnover of £60m; last year, profits were £7.6m on sales of £105.4m, so it has not languished under Nynex's stewardship. An attraction of BIS is its global reach - it operates in the UK, the US, continental Europe and the Far East.

BULL GCOS 6 HVX TO MIGRATE MINI USERS TO DPX/20...

Bull HN Information Systems Inc is taking care of its GCOS 6 minicomputer customers by providing means to enable them to move their DPS 6000 and Level 6 applications over to the Bull version of IBM Corp's RS/6000, Newsbytes reports from Enterprise '93 in Boston. At the show, the company unveiled GCOS 6 HVX, a new operating system that it claims is the first to enable Unix and proprietary minicomputer applications to be executed without modification on the same server. In its first release, called Single Decor, HVX will run GCOS 6 applications on the DPX/20 RISC servers. A future version of HVX, Dual Decor, will be able to run Unix applications as well as GCOS 6 applications on the DPX/20, the company says. The Single Decor version of GCOS 6 HVX is available now for some DPX/20 models and all models of the new server family are expected to be available with Single Decor in September, although it is not clear whether the machine needs to have a DPS 6000 co-processor installed to run the software. Dual Decor is planned for delivery in mid-1994. A sample mid-range system comprising a DPX/20 Model 460 with HVX, configured for 32 users, will cost \$53,361, which the company claims represents a 45% cost reduction and an 80% performance improvement over an equivalent Bull DPS 6000 Model 522 minicomputer.

...BULL NORTH AMERICA TO CUT MORE JOBS

On the downside, in the face of an expected 7% drop in revenues for 1993, Bull North America will continue cutting staff, which it has cut in half since 1989, according to La Tribune. The company is suffering heavy attrition in the mainframe market, and 7% drop in revenue for 1993 would actually be an improvement on the 12% decline in 1992. Axel Leblois, president of Bull North America, says the division continues to pin its hopes on refocusing its activities on multi-vendor systems integration and service. He says it has signed \$80m of such contracts since the first of the year. Specifically, the paper reports that the Bull division is about to sign several million dollar contracts with electrical products distributor Graybar Electric, the Florida State Police, American Airlines and Reuters Holdings Plc.

RAIMA HAS DATABASE FOR UNIX, NT

Database developer, Raima Corp, New York, will introduce Raima Database Server (RDS), a relational database for Unix and Microsoft Windows NT next week. The little known company, which has until now carved a niche for itself among C developers with Data Manager (its existing technical database offering), is aiming for the corporate on-line transaction processing market and competition against the big database companies Oracle, Informix and Sybase. It supports a variety of network protocols including SPX/IPX, TCP/IP, NetWare and Microsoft LAN Manager and runs on IBM OS/2, AIX, Sun Microsystems Inc Solaris, Santa Cruz Operation Unix and Windows NT next week. It'll also support Microsoft Corp's ODBC driver which enables third party products to hook into the database. Raima has also released Object Manager, a set of C++ class libraries for object-oriented application development and object database management. Both products are available from the end of the month, but no prices were given.

NEW OBJECT APPLICATION DEVELOPMENT ENVIRONMENT FROM INFOSTRUCTURE

Infostructure Inc, San Francisco, California, has introduced Structure, an object-oriented graphical application development tool for Unix and Microsoft Windows NT. According to Infostructure, the software is designed to enable users to write applications graphically without writing code manually. To do this, it provides an application framework (a template), which lets users develop applications from a set of C++ class libraries including graphics, icons and scrollers. Structure comprises three layers. At the top, there is an application class level, which allows users to define object notations and the behaviour of an object itself. From here, a series of subset objects called documents are created (users can decide how many documents they require) which controls corporate data. Documents can control database systems, connectivity between different hardware and software systems, networks and applications, Infostructure says. At the client level, a GUI object-based front-end allows users to view, modify and manipulate information. Structure is available now on Hewlett-Packard Co and Sun Microsystems Inc platforms - support for Windows NT will be added by the end of the year. It is priced at £1,650.

SUN EXPANDS IN INDIA, FORMS NEW COMPANY WITH WIPRO INFOTECH

Sun Microsystems Inc reckons there's gold in them thar hills - the hills of central southern India, that is - and has teamed up with local company Wipro Infotech Pte Ltd in Bangalore, Karnataka with the aim of expanding both their positions as India's leading workstation and server supplier, Newsbytes reports. Sun entered the Indian market in 1987 via a simple distribution agreement with Wipro Infotech, which is ranked number two in the Indian computer market. Since then, the relationship has blossomed to the point where Sun workstations and servers distributed by Wipro are regarded as occupying the number one sales spot. The new company, Wipro Network Systems Pte Ltd will operate as a subsidiary of Wipro Infotech. It will employ 160 and aims to promote the sale of Sun's hardware with third-party software on the OEM market, and through value-added resellers and general dealers. It was Wipro that scored the big win for Sun at the Bombay Stock Exchange and also at the Unit Trust of India, fighting off fierce competition from the likes of IBM Corp - through Tata Information Systems Pte Ltd, and from Hewlett-Packard Co and Digital Equipment Corp.

FROM CAMARON TO URUGUAY, LATVIA TO LESOTHO, THE MASSES WILL ALL BE OVERDOSING ON SUN AND SOCCER NEXT SUMMER

World Cup USA 1994 means even less to the average American than the tiny squib of cricket test match scores that the New York Times regularly prints, so the privilege of being named the exclusive computer supplier for the 1994 World Cup is a decidedly doubtful one for Sun Microsystems Inc. The thing isn't even going out on the terrestrial television networks in the US - and the average American will have read this far without having a clue that the sport we are rabbiting on about is soccer - but then you realise that Sun is not being quite so stupid as might first appear with its sponsorship money, because the event will be followed with avid attention all around the globe outside the US, and there are plenty of countries where the name Sun Microsystems, presently well-nigh unknown, will be burned into the retinas of a vast army of soccer fans by the time the tournament is over. World Cup USA 1994 "will implement its information systems by using a client-server model in order to reach its goal of making the games the most technologically advanced ever". Sun will provide World Cup '94 with its top-end servers, the Sparccenter 2000, as well as Sparcserver 10s and some 1,000 workstations made up of Sparcclassics and Sparcstation LXs, all running Solaris Unix. The systems will be used to manage accreditation, results, security, logistics and media systems at all nine match sites as well as all applications used at World Cup offices. World Cup USA 1994 is the non-profit legal entity charged with staging the event under the directions of FIFA, the Federation Internationale de Football Association. The championship for the Jules Rimet Trophy will take up a whole month next summer, from June 17 to July 17, and the cities chosen to host matches are Boston; Chicago; Dallas; Detroit; Los Angeles; New York and New Jersey; Orlando; San Francisco and Washington.

SUN TO JOIN SYSTEMS INTEGRATION BUSINESS

Sun Microsystems Inc is cooking up an integration division that'll be based in Chelmsford, Massachusetts, home of its personal computer and LAN-to-Unix connectivity planet, SunSelect. Sun is keen to cash on the success that companies like DEC, HP and IBM have had in systems integration consulting. The unit will focus on helping Sun customers to build networks of multivendor solutions and will use technology from other Sun divisions plus other network and integration technologies that it'll OEM from other vendors. It means Sun will pass on less integration custom to its existing partners like Andersen Consulting and Electronic Data Systems Corp.

HIGH-END WORKSTATIONS LEAD ITALY'S INDUSTRIAL COMPUTING MARKET

High-end workstations costing over \$20,000 were the fastest-growing segment by value, in Italian industrial computing in 1992, with 13%, slightly more than double the 6.2% growth rate for the sector as a whole, according to data reported by Milan-based Italian market research firm Teknibank SpA. The growth for powerful workstations compared with 4% for low-end personal computers (\$1,500), 7% for low-end workstations (\$6,000) and a decline of 17% for mainframes and super-minis combined, according to the figures reported in *Il Sole 24 Ore*. Italian industry absorbed 23,000 new CAD/CAM workstations, 14% more than the number installed last year, while the total number of industrial systems reached 83,000, an increase of 25% over the previous year. "These double-digit growth rates show a market not at all saturated, in which the penetration, in terms of posts for technical staff, still is not above 30%," the paper quotes Teknibank's industrial automation analyst Giuseppe Dellisanti. Teknibank has revised its growth prediction to a meagre 2%, which it says could last until 1995.

RED DWARF IT MAY BE, BUT ANTARES LOOKS LIKE MARRIAGE MADE IN HEAVEN FOR AMDAHL

By Chris Rose

Last week saw Electronic Data Systems Corp and Amdahl Corp stand up and announce a joint venture; the Antares Alliance Corp - see page three. It looks like a match made in heaven and also sees the General Motors Corp software and computer services subsidiary test the waters of the software market. The two partners bring similar but complementary products to the party; Amdahl with Huron and inCASE from EDS. Total investment in the new business is said to be in excess of \$50m and Amdahl sits in the driving seat with 80% of the Alliance (though EDS has the option to take up another 10% - presumably in the event that Amdahl needs more cash to keep the thing going forward). It is clear that Huron will form the core of the combined offering: EDS's development labs are in Dallas, Amdahl's are in Toronto, and while the two sites are staying where they are, any growth is most likely to occur in Toronto.

With the companies describing Huron as an "applications development, production and maintenance system" and inCASE as a "tool that generates and maintains client-server and monolithic target applications" the overlap might look disturbing, but the companies argue convincingly that they have complementary strengths. So EDS is proud of inCASE's ability to suck in information about existing business processes; its Apache module is used to question users about their requirements while the SCI, or Source Code Interviewer, module recycles the work ploughed into legacy systems by churning through old Cobol programs. What inCASE is not so good at is the actual code execution side and Electronic Data Systems corporate vice-president Joe Holmes admits that this part of the package "didn't get the same level of energy that [information] integration did". By contrast Huron's strength is as a cross-system programming and execution environment; its particular claim to fame is that applications for one hardware and operating system combination should run on any other, without recompilation or other tinkering; however its analysis tools are not so strong. The advantages for Amdahl are obvious. First it picks up the inCASE technology, which Amdahlers acknowledge would have to have been built into Huron at some stage anyway. Second, it gets the cachet of EDS's support, and its marketing muscle.

Enthusiastic

Though Huron has received a generally enthusiastic reception since it was launched in March 1992, and has picked up some influential customers including the UK Inland Revenue and American Express there are still only 52 or 53 site licences worldwide, so Electronic Data Systems' endorsement supplies some much-needed gravitas. And of course Amdahl still retains 80% of the new company. For EDS, Antares represents a way of keeping inCASE going, without devoting core resources to it, but just as importantly EDS gets a painless entry into the world of software sales. InCase is not a product; it has never been put in a box and sold to people, and in fact this is the first time that EDS has ever tried selling software straight. Instead EDS used inCASE as part of facilities management and other services to customers. The problem was, says EDS's Holmes, that the customers were not keen on having all their applications written in a proprietary, non-commercial package that no-one outside of the EDS community had ever heard of. "We didn't want to develop all the support and other services needed to commercialise the product, but we didn't want to release the product without the right support". Antares provides the answer. This may also be the start of a new business for Electronic Data Systems: the company must be cram-packed with little utilities that it has written for its own use, with the potential to become commercial goodies. Holmes acknowledges that "this is a kind of test in this regard" and if it goes well, more products could emerge, to be fed either into Antares or, says Holmes, new ventures.

Prototype

The strategy then, is for inCASE to become a front end to Huron, and last November a rough and ready prototype was built which demonstrated that inCASE could generate Huron-esque code. However it is not likely that a fully integrated inCASE,-Huron offering will emerge until the beginning of next year. In the meantime Huron version 2.0 is due out in September bringing with it formal support for the IBM Corp RS/6000 Unix box. At the time the product will be unshackled from the mainframe. Though Huron currently runs happily on 80486 personal computers under Santa Cruz operation Inc Unix, only customers with mainframe licences can get their hands on the product, with the personal computer version used for development and the finished application running on the big box. Now, separated from Amdahl, that will change.

There are even mutterings about a stripped down version of Huron, designed to enable MS-DOS or Windows users begin to use Huron applications as clients: John Paton, formerly Amdahl's European director of marketing for Huron, and now Antares' European sales director, is scathing about the type of client-server application where the client end consists solely of a pretty graphical user interface.

Crucial

The trouble is that Huron is not going to run on MS-DOS and Windows machines and there are a lot of MS-DOS and Windows users out there. "It behoves us to build a presentation version of Huron" he concludes, saying that this is likely to be delivered in 1994. In the meantime the RS/6000 version will enable personal computer users to access Huron applications through X-terminal emulators. The company also intends to support Sparcsystems running Solaris and Windows NT. The crucial component that has yet to be delivered is the price. All the company is saying is that it will be user-based and generally there will be an initial licence fee with a "simplified per-seat charge", but importantly the company has realised that mainframe pricing is inappropriate if it is going to make a dent in the client-server market and says that pricing will depend on which machine users want to run the package.

ONLY APPLE'S POWERPC WILL HAVE 680x0 INSTRUCTIONS IN ROM

Apple Computer Inc, it seems, has a vanilla implementation of the IBM/Motorola PowerPC 601 microprocessor designed specifically for its Mac emulator technology, which leaves IBM - currently the manufacturer of all 601's - busy working on its own 601 implementations. The emulator technology is paramount to Apple's PowerPC strategy, providing interoperability and compatibility with its Macintosh System 7 and future System 8 operating system and existing Mac applications. At the microprocessor level, Apple's 601 ROM has been separated from the PowerPC CPU - it sits outside the chip - and has had Motorola's 68000 instruction set embedded into it to translate 68040 instructions into RISC code the 601 can understand. To the rest of the system and to the end user there will be no difference in look and feel to an existing Mac machine, says the firm. But the ROM technology is Apple only and won't appear with any other PowerPC solutions, says Apple's PowerPC product manager, Jim Gable. Other PowerPC developers will have to support Mac emulation through PowerOpen, the trio's AIX-based operating system for the architecture, via products like Insignia Ltd's SoftPC and Echo Logic Inc's emulator. Apple has also done some fancy footwork at the systems software layer, providing mixed-mode functionality allowing applications written via ToolBox, the company's Mac programming tool, to be transferred back and forth between RISC and CISC environments. To do this Apple has converted two of its most used tools, Quick Draw and Memory Manager, into RISC code, so applications can run on both architectures. Application performance is not affected, claims Gable. The rest of ToolBox will be re-compiled to RISC code over the next year or so. The first 601-based Macs will be released in January/February next year and will be phased in with the firm's existing Centris and Quadra server lines. Gable says Apple expects to shift one million units of 601 Mac by the end of the year. The company has no plans to support any other operating system except PowerOpen and says Microsoft Corp's Windows NT is "definitely not on the cards". Meanwhile, silicon schedules for the other PowerPC microprocessors are still on track and it expects the low cost, low energy 603 CPU destined for laptops and notebooks to begin silicon sampling early next year. The mid-range 604 chip should roll-out late 1994 and the symmetric multiprocessing 620 in 1995, the firm says.

SYSTEM SIX USIX FROM D-NIX HERIATGE

By Maureen O'Gara

Going up against the new wave of Unix desktops, System Six Inc - see front page - intends to focus initially on Intel Corp hardware supporting ISA, EISA, C-bus and Multibus configurations. A RISC version is supposed to follow six months after initial release. The software is compliant with IEEE P.1003.4, 1003.6, 1003.7 and 1003.P. The Russians have developed their own MS-DOS translator, Dosix, that operates independent of X Windows and goes into beta next month. It will reportedly allow Windows and MS-DOS applications to run on the console but it will not yet make them network-extensible. TCP/IP support is due before autumn, threads and NFS support will follow. System Six Inc's director of software engineering Brad Erlwein, formerly with Zenith Data Systems, says there are still "minor holes" in Usix that have to be plugged and it is Erlwein's job to see that the software is properly tested and has adequate technical support. While the kernel is now stable, he says, the Russians are taking their first crack at a TCP/IP stack on the UDP protocol. It will be autumn before TCP/IP is fully supported. Usix also currently lacks threads and NFS support. He feels it will be the end of the year before Usix is fully networked with X Windows and systems administration support and a full complement of Unix-like utilities. Still it should be out at user sites in Sweden, South America and the US in the next few weeks. System Six acknowledges that the US, or even the industrial West, may not be its real market. It claims however that the growth of Unix-like systems for the rest of the decade is projected at

35% to 45% outside the US versus a flatter 15% to 20% domestically.

System Six Inc is the brainchild of its president Tomas Jablonski, a Swedish ex-pat, and its vice president of R&D Roman Tankelevich, a Russian software expert and Soviet dissident. The two were originally brought together by Jablonski's work in Sweden on behalf of D-nix, the Diab Data Unix variant, supposedly a prototypical microkernel, heavily used in Ericsson's telephone systems and eventually bought by the Swedish government. Jablonski looked to the Russians to get a cost-effective alternative to D-nix and SVR4. It was from that work that the idea for Usix was born in the mid 80s. Through Tankelevich, groups of Russian scientists were asked to bid on building it, a project that could be done there for tens of millions of dollars less than it could in the West. The bid was won in 1990 by Electronmash, the 65,000-employee Soviet predecessor of INEUM. One of the reasons Jablonski and Tankelevich decided to headquarter System Six in the US was the development of intellectual property law here. System Six says it has around \$10m in first round investment from seven international banking and private sources. No venture capitalists are involved and six more investors are reportedly in the wings for additional troughs.

Deterministic

The Russian INEUM's Usix was designed from the ground up on Intel Corp 80286 and 80386 machines and the Corollary Inc multiprocessor Cbus around newer technologies than its aging Unix predecessor and so is reportedly object-oriented and microkernel-based, two leading-edge areas Unix is only now starting to incorporate. Usix' Russian developers, previously involved with the old Soviet Union's advanced defense research and members of the interlocking Russian Academy of Science, had in mind to solve the persistent weaknesses in Unix. Usix was implemented from the beginning as a multiCPU-based kernel. Unix support of multiprocessors, on the other hand, has only been partially successful and done at the expense of portability and performance, System Six says. Usix is reportedly fully pre-emptible and supports symmetric MP architectures at all levels from the kernel internals, through device drivers to higher level functions such as TCP/IP. It therefore provides a better more linear scalability than systems relying on patches to a single-CPU kernel. Erlwein claims the current MP/Usix gets 90% of the power of each of the processors it runs on in a multiprocessor configuration compared to Unix at 50%. Usix also says that SVR4 is still a typical time-sharing kernel with a few pre-emption windows in the otherwise monolithic critical region. The real-time extensions added to it so far don't go as far as Usix does. System Six says the Usix kernel can almost always be interrupted. Critical regions are short, few and well-defined. The response time is therefore fully deterministic. Real-time priorities are the priority levels higher than that of the kernel. Processes executing at these priorities can be pre-empted only by processes with an even higher priority. No time sharing of processes executing at the same priority is permitted. The Usix kernel was also designed with the goal of providing the shortest possible interrupt latency, context switching time, semaphore shuffling time and deadlock breaking time. Being microkernel-based, Usix uses servers to provide basic services: file system emulation, serial terminal and console I/O and several other device drivers. Some facilities such as Streams are available both as servers and as linkable kernel modules. Other possible applications include database and screen windowing servers. The Usix file system provides enhanced reliability and user security, System Six says.

Several copies of all vital structures are maintained throughout the disk to lower the chance of catastrophic data loss. Directories support additional data needed for higher user security levels. The file system provides total emulation of System V so that older programs that open directories as ordinary files instead of using system calls will function correctly. Usix avoids defining a separate swap file system during installation. An ordinary file is automatically created during installation that will dynamically extend as needed preventing out of swap area errors and the need to re-install the entire system from systems if the initially allocated swap file system is too small. It also adds three synchronisation levels: full, no and partial. In addition, all the RAM not used by processes or the kernel is automatically used as disk buffers, providing optimised disk I/O performance. Most kernel parameters in Usix can be dynamically changed at almost any time by executing a simple program. This permits the kernel to be reconfigured based on actual demands. System Six is also adding several extensions to the basic Usix including a server-based relational database with compatibility modules for users of Oracle, Informix and other packages.

PYRAMID WINS FUJISU AS SPANISH OEM, LANDS NEW GOVERNMENT CONTRACTS IN EUROPE

Although Pyramid Technology Corp rivals Sequent Computer Systems Inc and ICL Plc bested it in IDC's latest report on midrange - \$100,00 to \$1m - market shares (UX No 441), Pyramid claims its last three sales have all been valued at over £1m and that a new high-end category of measurement is required. It says an average sale is now a £300,000 box with six CPUs and that it is focused almost exclusively on the mainframe market space, not departmental sales. Last year Pyramid teamed with Comdisco Inc and Compagnie des Machines Bull SA to address the mainframe sector, a relationship it believes has already netted £10m sales for Pyramid UK. Meanwhile, part of Pyramid's agreement to supply bus and operating system technology to ICL Plc calls for the Fujitsu Ltd-owned UK firm to market Pyramid boxes on an OEM basis. Pyramid says ICL is keeping up its end of the deal and has already sold several MIServer systems into its traditional markets: the arrangement should be worth at least 50 systems over time. ICL already has engineers camped at Pyramid labs in Oregon working on a Sparc implementation of the Pyramid bus. Pyramid estimates its OEM customers have probably sold as many systems as it over time: the Siemens Nixdorf Informationssysteme AG and Ing C Olivetti & Co SpA deals are worth some \$25m a year, it says. Kobe Steel Co in Japan and Korean firm Hyundai Electronics Co are its other partners. Steve Reeves, director of UK sales will be taking on more duties in that market, as UK managing director Ken Jacobson focuses increasingly on Europe. Jacobson plans to go after new OEM and reseller arrangements on a country-by-country basis, especially in markets that aren't currently well served by high-end Unix vendors. Jacobson has three outlets lined up in France and will soon announce an OEM deal that will see Fujitsu Ltd sell Pyramid kit in Spain, where the Japanese firm has a large presence. Most of the company's UK income comes from direct sales, up to 35% is OEM-derived. On the continent as much as 60% of income is supplied by third party vendors. Pyramid claims UK sales of its commercial multiprocessors are already 70% up on this time last year, a figure that should climb to 100% by year-end. The company, which has only recently returned to profitability, says it should hit \$240-\$250m this financial year. Pyramid claims to have won two multimillion dollar European government contracts that are to be announced in three or four weeks time. One has been put together with Electronic Data Systems, the company that runs Pyramid's in-house information management systems.

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Unix System Laboratories and *The C++ Report* are sponsoring a series of worldwide one-day training conferences on C++. The tour, called Destination C++, kicks off in New York (Aug 2), and then goes on to Washington DC (Aug 3), Toronto (Aug 5), Houston (Aug 9) and Los Angeles (Aug 10). It'll reach Europe in December with sessions in London (Dec 6), Paris (Dec 7), Frankfurt (Dec 9) and Stockholm (Dec 10). A Far East tour is planned for the first quarter of 1994. To register contact +1 212 274 9135.

Berkeley Software Design International Ltd, Canterbury, Kent, has started shipping BSD/386 version 1.0 in Europe.

According to the *Wall Street Journal*, **Fujitsu Ltd** is planning two new lines of massively parallel systems due in three years that will be targeted at database processing and mission critical applications like reservation systems and financial transaction processing.

The *Microprocessor Report* notes that John Cocke, the IBM fellow known as the "father of RISC," has joined **HaL Computer Inc** as chief scientist after retiring from Blue.

Following **Sun Microsystems Inc's** civil lawsuit charging misappropriation of trade secrets and theft of layout and manufacturing blueprints for a new system board (UX No 436), **Hyundai Electronics** San Jose, California-based **Axil Workstations** has redesigned its Model 230 and 310 Sparcstation 10 compatibles and renamed them the 240 and 311 respectively: Axil can sell the 311 but is awaiting clearance to market the 240, which comes in a Sparcstation 2-compatible chassis.

As had been expected, John Sculley has handed over the post of chief executive at **Apple Computer Inc** to his number two, Michael Spindler, who is currently president and chief operating officer. Sculley remains as chairman, and will focus on emerging new business opportunities. "I am energised by the possibilities for Apple's continued growth and remain committed to Apple," Sculley declared.

Sparc is about to be taken seriously in embedded applications, or so **Fujitsu Microelectronics Ltd** hopes will be the case now it has come up with the MB86932 advanced Sparc processor, and as the European Sparc forum **EuroSparc** is ready to present the V8E standard for an embedded version in September; the new chip comes in a 20MHz or 40MHz option, uses a 0.8 micron geometry CMOS process and has a two way set-associative instruction cache enlarged to 8Kb from the 2Kb that was included in previous versions.

Antares - see page six - the **Amdahl Corp-Electronic Data Systems Corp** venture, is the name of a red dwarf - a dying star. Clearly it bears the name because it's close to burn-out time for the mainframe, but the official reason is that "Antares is the name of a star" and the technology is "universal in nature." EDS owns 20% of Antares, and will no doubt run Huron on Amdahl plug-compatible mainframes from another company where it has 20% - Hitachi Data Systems.

What is going on at **IBM Corp**? *The Infoworld* gossip column suggests that IBM has "pretty much disbanded" its AIX Unix development group since it "decided to go exclusively with COSE code" - except that the Common Open Software Environment is a set of standards and interfaces, not a body or developer; maybe IBM is handing its Unix development over to **Compagnie des Machines Bull SA**.

UK Distribution of **DEC's DECpc AXP 150** Alpha RISC personal computer has been handed to **Computer 2000 AG's** Basingstoke, Hampshire-based **Frontline Distribution Ltd** and **Ideal Hardware Ltd** of London, an existing DEC distributor - the machine is designed specifically to run Windows NT.

Silicon Graphics Inc is working on a new-generation low-end workstation under the code named Guinness that's due out this summer doubtless before **Siggraph** in August. We hear it's based on the R4000/R4400 chips but some competitors think it might use the new low-cost R4200. It's supposed to use digital media stuff, fancy digital audio/video and set a new SGI price point below \$10,000.

NeXT Computer Inc has hired William Wesemann, the former vice president of **KnowledgeWare Corporation**, the CASE and tools house, as its vice president of North American field sales responsible for managing its direct sales force.

John Luongo has joined **ProActive Software Inc**, the customer information systems people, as president and chief executive officer directing operations, business development, service, sales and marketing. Founder Steven Goldsworthy remains chairman and chief technical officer. Luongo had been president of the management consulting firm **Devlyn Corporation**, counsel to **PeopleSoft** and **Micro Focus**. He had previously created Oracle's International Division growing it to a \$425m organisation.

IBM's months-old **Power Parallel Systems** unit has plucked Ben Barnes out of **NCR** where he was assistant vice president for its Large Computer Products Division working with **Teradata** parallel systems and made him head of marketing.

The user group de jour is the **Personal Computer Assessts Management Institute (PCAMI)**, an organisation aimed at providing businesses with tools to manage corporate computing assets. Membership fees cost \$3,000. For more information write to P.O.Box 40049, Rochester, New York, 14604.

Tandem is going to support C-TRON, one of the variants of the Japanese operating system, on its Non-Stop line: it'll sell the stuff to Nippon Telegraph & Telephone starting in September when it begins to ship.

Unix Systems Laboratories, now that it's owned by Novell, still retains rights to Plan 9, the AT&T Bell Labs next-generation operating system that's in the works (UX No 420). USL executive vice president Mike DeFazio says however that doesn't mean USL will ever use them. USL apparently doesn't think that's the way it wants to go.

Seems **Sequent Computer Systems Inc** at one point had agreed to take DEC's Alpha AXP RISC for a new line of symmetric multiprocessors, on condition the firm found other semiconductor houses willing to build the part: after 18 months of trawling, DEC could only muster Mitsubishi - Sequent's offer lapsed many moons ago.

Sun Microsystems Inc is feeling increasing pressure. In a "Heard on the Street" column entitled "Sun Microsystems' Future May Be Headed for the Dusk" in last week's *Wall Street Journal*, the paper speculated its stock may get pummeled in the next few months because of IBM, HP, DEC and NT, rumours that Sun may start layoffs and fears for its gross margins.

Equipped with the latest technologies from **HP, NCR, SCO and Sun, Software AG** has opened a Rightsizing Center at its Reston, Virginia headquarters to help organisations lower costs and time and port to Unix, OpenVMS and desktop environments.

Telecom Open, a strategic workshop to investigate such subjects as the Chorus microkernel, is set for September 1 at the Stouffer Mayflower Hotel in Washington, DC.

In collaboration with the major Japanese systems vendors, **The Finite Element Factory** is developing a facility in Silicon Valley to help US software vendors port their products to Japanese systems. The facility, sponsored by Japan's **Organisation for Software Distribution**, will be called the **OSD Porting Center** and will be equipped with workstations and PCs running Japanese-language operating systems and utilities. It will also help with documentation translation, marketing strategies, appointments with Japanese distributors and international licensing agreements. +1 408 245-9264

Globetrotter Software says it has filed a claim with the **American Arbitration Association** seeking dissolution of its joint venture with **Highland Software Inc**, an accounting by Highland and sale of all joint venture assets. Among the assets sold would be **FLEXIm**, the license management product. Globetrotter says it is seeking to enjoin Highland Software from offering maintenance or support of **FLEXIm**.

Although DME manager at **OSF**, Kathryn De Nitto, promised a schedule for the roll-out of Distributed Management technology within a couple of weeks (UX No 434), it now appears DME will be set back further than originally thought as OSF still hasn't completed negotiations with **IBM** on integrating DME components: OSF will only say that the talks should be complete by the end of the year, which does not bode well for availability of DME any time soon.

If you can't stand the heat get out of the kitchen: **OSF's** business area manager for interoperability technologies appears to have had enough, climbing into a consultancy job at start-up **OpenVision Inc**, Pleasanton, California.

Colin Kempter of **Data General Australia** asks: "How many Microsoft people does it take to change a lightbulb?" The answer is "None, they just redefine darkness as an industry standard."

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IBM DETAILS AIX ROADMAP, PS/2, AIX/ESA FUTURE UNCLEAR

IBM Corp is to offer five new variants of AIX over the next two years, each aimed at a different market segment, according to a report in PC Week, confirmed by principle RS/6000 architect Andy Heller on a visit to the UK last week. The roadmap, says PC Week, details AIX Classic, a repackaged version of AIX/6000; AIX Lite for PowerPC and low-end RS/6000 workstation users; AIX Run-Time, for PowerPC-based embedded applications; AIX Cluster for clusters of five or more RS/6000s; and AIX SMP, the symmetrical multi-processing extension of AIX that IBM is working on in conjunction with Groupe Bull. Heller confirmed that a range of AIX implementations were underway including lightweight, mid-range and high-end versions, and promised "two to three AIX announcements each year". What is not clear is where this leaves IBM's "orphan" Unix products, namely AIX PS/2 and AIX/ESA, both incompatible with mainstream AIX, despite IBM's original plans to yoke all the versions together under a "family definition". PC Week maintains the two versions are doomed, a story that has caused Amdahl Corp much excitement over the last few days. AIX Classic is set for next month, AIX Lite is expected to follow in October, and to be based on the PowerPC application binary interface; it is geared to run on the forthcoming PowerPC laptops that Tadpole Technology Plc is developing for IBM in the UK: they are due to ship next year, and the target is that the software should run on a 4Mb system with 80Mb disk. AIX Run-Time will be based on an even smaller subset of AIX Lite, using the Mach microkernel, and will include "more and more of OSF/1" over time. SMP will be out next year, said Heller. Users with PS/2s may be encouraged to migrate to IBM's planned Workplace OS for OS/2, running AIX as a personality.

COSE DELIVERS DESKTOP SPECS TO X/OPEN CO

Although the Common Open Software Environment folks made good their promise to deliver a specification proposal for the common desktop system to X/Open Co last week, there was little new in terms of substance to what has gone before. The 100 page tome, now generally available from X/Open electronically or on paper, is intended only as a document for discussion and evaluation. No-one outside COSE itself will be writing code based on the specification, and development is unlikely to begin until early access kits start to appear around the time of the UniForum-hosted developers conference in San Jose in October. Some insiders say that even October will be too early, that only unstable pre-beta code will be around by that time, moreover that COSE firms ignored advice to move the event back to December. More realistic timescales for completed Common Desktop Environment (CDE) implementations have also emerged: they foresee sample copies of the front-end from next March and full product releases a year thereafter. In the event, the COSE firms have moved a few points off their original "90% there 10% to do" expectation (UX No 437), saying that around 80% of the overall project is now complete. Although 95% of the code itself used in CDE was in existence before COSE began its task, the remaining 20% of the job is to complete what is needed to hang all the components together - non-trivial integration work, plus unspecified "object" features still under development and testing. There are between 200 and 300 engineers across the COSE firms working on CDE at any one time. Once complete, COSE vendors will take away the same versions of a basic CDE implementation and decide subsequently how and in what form they will configure and market it to users and ISVs, bundled, unbundled or otherwise. The most recent CDE reference implementation is built upon a widely-used source code tree mechanism and is up on eight different platforms from four vendors, apparently not all of them COSE firms.

UNIX IS NO DINOSAUR - STARS IN JURASSIC PARK MOVIE

Microsoft Corp might be portraying Unix as a dinosaur in its push to get NT accepted as a server-based system, but there's one major piece of hyping it appears to have missed out on - Jurassic Park. The computer centre featured in Steven Spielberg's dinosaur adventure is sprinkled with Silicon Graphics Inc workstations running graphical-based control systems, plus Apple Computer Inc Macs doing multimedia and communications stuff. There's also a Thinking Machines Corp system sitting at the back-end somewhere that seems to be doing work on analysing dinosaur genes as well as running many of the Park's systems. Unix itself figures in the climax of the film when the young heroine begins to turn the table on the rogue beasts: "I know this system. This is Unix. It controls the whole of Jurassic Park." Were those SGI workstations featured in the film a sneak preview of the new low-end workstation due to be released by Silicon Graphics on July 12th? (UX No 442). Latest word is that the workstation, named Indy, will be billed as the first "video" workstation on the market. It will be launched at SGI's Mountain-View, California headquarters by James Burke, popular scientist and visionary, who first came to prominence in the prehistoric UK television series, Tomorrow's World. Jurassic Sparc - see page 8.

HUNTER'S PC-UNIX

TECHNOLOGY RE-EMERGES

Hunter Systems' Windows-on-Unix technology has survived the company's demise. Its mantle has fallen to the newly created MultiPort Inc, engineered by Hunter's venture capitalist, Technology Funding Venture Partners, and run by ex-Hunter technologist Rob Farnum. Farnum was brought into the ailing emulation company 18 months ago to head up work on a new generation of Hunter products. TFV foreclosed on Hunter's assets after buying back its debt at public auction in April (UX No 431, 432). Hunter was started in the mid 80s to peddle its pioneering XDOS technology, meant to convert DOS applications into binary format to run native on Unix, originally on Motorola processors. Trouble was conversion was often a complex and lengthy process. Farnum was hired to make improvements. He calls his concept "Windows for Unix" and claims to be a long way towards developing a new-generation binary interpreter that will run any Windows application without alteration. He says he can catch up with Insignia Solutions and surpass SunSelect's WABI technology by providing full Win32 capabilities from the start. Multiport has a WABI-style device to run Windows binaries on top of Unix with a Windows look and feel called HS Win when it was a Hunter product. It also has a Software Developers Kit a la Bristol Technology Inc that will recompile programs and run them native on Unix. It was called HS Win SDK at Hunter. Farnum says he has pretty much reimplemented Windows as a networking product and rewritten the Windows Software Developers Toolkit for multiple-platform network-aware use. He claims it's done from the Unix view, using X11 and Motif and says it's wholly platform-independent and will let Windows apps run on NT, OS/2, Mac, VMS and DR DOS as well as Unix, something sources say is a future potential not a present reality. The product nearest to completion is a pre-Alpha X implementation, funded by Hunter (and IBM) before its collapse. Multiport is currently a company in search of a direction and a corporate "rabbi." Farnum says he's talked to Microsoft, HP, IBM, NCR, Sun and DEC about the products he could build and asking them what they want. MultiPort has already had one a false start, initially calling itself CrossWind Software, a name that's already taken. It can be contacted at 415 494-2782.

IBM DENIES AIX SHUT DOWN

IBM's head of AIX development Donna van Fleet told Unigram.X that the rumours originating from InfoWorld about IBM closing its AIX development unit (UX No 442) were not true. She said the story may have come out of an early-retirement programme currently taking place in Austin. New Power PC firm, page 2.

COSE SPEC FAST-TRACKS THROUGH STANDARDS PROCESS

The COSE specification (see page 1) will go before X/Open's desktop user requirements group which, chaired by Shell Oil, meets on July 12th in San Francisco, then on to the standards body's common desktop environment working group which meets over the following couple of days. X/Open says it'll compare the specification with recommendations made by this and previous desktop user requirement meetings and take any proposed changes back to the COSE vendors, who say they'll comply with whatever is required. X/Open's specific concern is understood to be the inherent portability of the system, an issue the COSE firms say they are explicitly addressing. A final specification proposal based on the outcome of these meetings will be completed in time for the developers conference and submitted to X/Open's fast track process. The COSE firms are each thought to have paid around \$225,000 to get CDE fast-tracked - each separate document costs an additional \$23,000 to get processed. The only specification document that currently exists in such a form is Motif - that's expected to take 18 months to clear the proceedings.

With no formal organisation or marketing structure as such, the COSE vendors nevertheless believe that the collective support of their own marketing teams, plus those of ISVs, developers, and the endorsement by X/Open and other partners will be enough to carry the common desktop environment to market.

As to the COSE name itself - rights to which are understood to already belong to an unidentified company (UX No 442) - the vendors say the abbreviation of common open software environment to COSE wasn't their doing, they never started it and that it was just a convenient moniker hung on their process by the industry and press corps at large. They're now looking for another name. They know common open software environment is too unwieldy, they've just got to hope that whatever they come up with will be sufficient to get COSE dropped, because they know how names tend to stick...

It was an IBM lawyer that discovered the trademark ownership and the COSE firms are now negotiating to get the company that has rights to it to give it up. Mind you, COSE's bureaucracy is such that it took two weeks to get someone on to doing just that. Seems the aforementioned IBM suit was sharper than lawyers over at Kelley Drye & Warren who weren't able to track down the COSE owner after trawling the US Patent and Trademark office, which it knows is two months behind what's current: that assumes, of course, that the COSE trademark is registered in the US. IBM said publication of the name of the company wouldn't help negotiations along.

The vendors are also working on an all-singing, all-dancing name for the common desktop environment too. Although Oracle Corp already has a CDE product (UX No 442), that can't ever have figured as a realistic choice for the front-end technology. There is a list of possibles doing the rounds - longer than your arm, apparently - which is being overseen by a naming committee.

The common desktop environment includes window management, in which a front panel provides the user with access to applications, devices and other objects. Desktop integration is provided via policies, formats and protocols for launching applications and handling cut and paste and drag and drop data exchange. There is object/folder management system, including a file manager for creating, moving, copying, opening and deleting objects; editors for e-mail, calendars, text and icons; and basic administration supporting application set up, management of desktop resources, interapplication communication services and application programming interfaces and protocols for message passing.

Some people even within its ranks have the same reservations about COSE that they had over ACE: one told us not to blow too hard on it because its just a house of cards.

DG LAUNCHES NEW-GENERATION 1000 TPS AVIIIONS

Data General Corp duly announced its next generation of AViiON enterprise servers last week (UX No 441), claiming that they represent a 44-fold performance increase since the AViiON line was first introduced back in 1989. Along with the six to eight-way AV9500s, the mid-range two-to four-way AV 8500s and the supporting AV 500 workstation from Omron Corp detailed two weeks ago, DG demonstrated the new high-availability features of its DG/UX 5.4 Release 3 operating system. These include automatic rapid recovery, de-configuration of failed components, automatic re-booting and automatic fault reporting. Storage management, threads support, and improved symmetrical multi-processing are also included, with DG claiming linear performance increases when adding processors through use of multi-level caching. Steve Gardner, vice president of AViiON marketing says the new systems should perform at around the following transaction per second rates using the TPC-A benchmark (not officially audited yet): 2-way - 120 tps; 4-way - 210 tps; 8-way - 500tps; 12-way - 750 tps; 16-way - 1,000 tps. These are single systems say Gardner, not clusters like Sequent's 1,000 TPC-As on Oracle: DG plans clustering enhancements later this year and has great hopes for the Oracle Parallel Server. The 2 and 4 CPU systems will use 45MHz 88110s with 256Kb secondary cache. Within 6 months - and by the time the 12-and 16-way systems are available they'll be using 50MHz kickers with 1Mb cache. DG expects the 8500 to be the volume leader and is pitching that against Sun's Sparcserver 1000s. The 8500 has been optimised for Oracle, but both Oracle and Sybase are being rewritten to support threads. In fact the 9500s and 8500s have been shipping for the last 75 days, Gardner says, as the AV8400 and AV7400 respectively, without the 88110 CPU boards, so they just get a board-swap. DG is looking at enhancements Motorola has for the 88110 as well as 5 or 6 other RISCs for future use. Indeed it's already ported DG/UX to several others, including the PowerPC, for evaluation. It'll put up DCE later this year, and Tivoli's distributed management framework when USL has completed its work on the stuff. Computer Associates' CA-UniCenter will be up on AViiONs by the end of the year too. He claims the Omron workstation is joint R&D, and that the DG versions are being manufactured in the US, although it sounds as if Omron's in the driving seat. Markets for the workstations are commercial, ie geographic information systems, software development and as packaged systems to front-end the servers.

IBM FORMS NEW FIRM TO MARKET POWER PC LINE

IBM Corp is establishing a new personal computer subsidiary specifically to handle high-end machines built around the PowerPC RISC. The PowerPC company was unveiled last week, and is dedicated to oversee the development, manufacturing and marketing of entry-level systems based on the PowerPC technology, the company said. Observers say the reason for the PowerPC company is that while IBM badly wants to support PowerPC, it doesn't want to alienate Intel Corp, whose chips power most of its PS/2s, or bad-mouth its technology. Nobuo Mii, a veteran IBM personal computer technology guru, is to run the business. In contrast to the workstation PowerPC products, typically aimed at scientific and technical users, the new subsidiary will use the PowerPC in main stream personal computers. It is not clear what operating system will be offered, but the betting is that it will be WorkPlace OS, the Carnegie Mellon Mach microkernel configured to take multiple personalities - likely OS/2 and AIX, but also DOS, Macintosh, Windows and NT. The first PowerPC-based personal computers using the 601 PowerPC chips, and pitched at PC-level prices, are due out next year. Before that, by the end of this year, workstation products based on the 601 chip and running AIX are expected, according to RISC hardware boss Andy Heller. Meanwhile IBM in the US will begin to sell the Ambra line of low-cost personal computers previously restricted to Europe and Canada through yet another company, not yet announced.

NOVELL INC LAUNCHES APPWARE WITH THE HELP OF ITS NEW TOYS

Novell Inc is mobilising the concepts of object-oriented programming in an effort to alleviate the yawning network applications gap, using technology from its recent acquisitions Serius Corp (UX No 438) and Transformation Inc (UX No 433). The company has been previewing AppWare, a new software layer in between operating systems and applications that it says is designed to improve the efficiency of network application development by "delivering the power of the network while shielding developers from its complexity". Novell claims that AppWare will have "the same explosive impact on the growth of network applications as operating systems have had for desktop applications" and will "revolutionise network application development, and greatly increase the number of network applications available for customers".

AppWare Foundation

The company says the new layer is intended to address the fact that it is too hard and costly to write applications that take advantage of the networks now in place, and claims backing from Borland International Inc, Oracle Corp, WordPerfect Corp, Gupta Corp, Easel Corp, and Powersoft Corp. AppWare consists of development tools, enabling technologies, and re-usable software modules. The AppWare Foundation will enable developers to write code using traditional software languages and deliver network applications that are independent of client operating systems, graphical user interfaces, and network services, the company claims, providing an open application programming interface that will shield the complexity of the network. The AppWare Bus and AppWare Loadable Modules will offer an assembly-line model for re-using prefabricated software modules to build reliable, powerful applications "in record time" - without writing line-by-line code. An AppWare Bus is intended to improve applications development efficiency by giving standard access to pre-built services. Much like the NetWare Client Shell is to NetWare, the AppWare Bus is the enabling technology of the AppWare Loadable Modules. There will be a Visual AppBuilder tool to enable users and developers to link AppWare Modules for new custom applications. These modules will include telephony, imaging, multimedia, video and other objects. And AppWare will be open to third parties to create loadable modules and implement their own versions of the visual application-building tool. The company has learned from customers that today's custom desktop applications have a life span that is only about 20% as long as their custom mainframe predecessors, while taking 50% more time to create, and claimed that one of the Big Six accounting firms that needed a custom time sheet application, cut development cost and time to \$100,000 and six weeks from a projected \$1m to \$2m and 12 to 18 months by using the pre-release AppWare. AppWare developer release will be out in October with full launch next year. No pricing yet.

RUSSIA'S SYSTEM SIX "IS LIKE PLAN 9"

The new Unix rival, System Six Inc, believes its Russian-designed Unix system (UX No 442) bears a certain resemblance to Plan 9, the distributed successor to Unix that Unix' fathers Dennis Ritchie, Ken Thompson and Brian Kernighan have been working on over at Bell Labs the last few years (UX No 291). System Six has heard Plan 9 described recently as a threads-based object-oriented microkernel. As happened with Unix, Plan 9 source is now reportedly available to universities.

ORACLE SUES STANDISH OVER BENCHMARKING SQUABBLE

The relational database giant, Oracle Corp last week filed a suit against a small-town market research company called The Standish Group, Yarmouth, Massachusetts, for defamation, trade libel and interference with perspective economic advantage over claims that Oracle "cheated" in Transaction Processing Council (TPC) benchmarks. The Standish Group report "The Foul Flag Flies For Oracle" alleged that the Oracle7 TCPA benchmark results were "invalid, seriously misleading and abused TPC ethics". The bone of contention for both companies is the use of the discrete transaction option, a function which in effect disables parts of the database that aren't used in transaction processing. Standish claims this "misleads" users about the database's true performance capabilities in real life scenarios. It also alleges Oracle has "fraudulently" advertised benchmarks to gain competitive advantage. In repost, Oracle says it carried out the benchmarks in accordance with TPC rules and is justified in using the discrete transaction option to obtain benchmarks for users specialising in the on-line transaction processing market. "All benchmark results were subject to TPC review... and if The Standish Group has difficulty with TPC rules and guidelines, mechanisms exist within the organisation to express that concern", says Ken Jacobson Oracle's vice president of product planning. Standish is also calling for the TPC to review its policies and procedures on benchmarking claiming that the body lets companies on many occasions "abuse its ethics". The Standish Group's Jim Johnson says "Oracle set out to deceive users and the TPC let them do it". The chilling twist to the story and one which might add weight to Standish's claims in court is the group's rumoured financial backer: fault-tolerant specialist Tandem Corp. Tandem is a founder member of the TPC and believer in the power of benchmarks is also calling for the TPC to review its policies and to bring out more user-oriented specifications. Meantime, as battle commences The Standish Group has set up, what it grandly terms, a "Foundation For Truth and Performance" to raise funds for legal fees. All contributions are welcome, says the organisation.

NEURON BROADENS TOOLSET WITH ELEMENTS ARCHITECTURE

Neuron Data Inc, the Palo Alto-based GUI builder, has launched the first stage of its new strategy to broaden its market from professional software developers towards corporate and commercial developers who prefer to use 4GL-like development tools. While it won't be abandoning its nuts and bolts developers, the company's Elements Architecture aims to establish a set of four portable tool "elements" that include GUI builder, data access, rules and objects. The first two elements were announced last week: Version 2.0 of the existing Open Interface GUI Builder and a new data access facility, C/S Elements, for high-level, transparent access to multiple flat file, object-oriented and relational database management systems and other data sources. Open Interface has been supplemented with a scripting language for higher-level programming, "power" widgets for drawing business graphics, colour icons and hypertext help, support for C++ and a character mode capability. C/S Elements initially supports Oracle, Sybase and Microsoft ODBC-compliant databases, with Informix and DB/2 on the way. The final two Element components, expected later in the year, will include an updated version of the company's Nexpert Object expert system development tool, and a new object repository. All are individual modules and can be used standalone. It runs on 35 platforms, including OS/2, Macintosh, AIX, Windows, DEC Ultrix and SCO - more than any of its competitors, the company claims. Neuron now derives only 40% of its revenues from its original tool, Nexpert Object, with Open Interface, launched in June 1991, taking the rest. The privately held company says it posted record fourth-quarter revenues of \$6.3 million at the end of its fiscal year on March 31st. It won a giant IBM contract in November 1992, and numbers American Management Systems, Sterling Software and Cray Research Inc among its customers.

PLANNING TO SWITCH TO CLIENT-SERVER COMPUTING? WELCOME TO THE MONKEY HOUSE

by Gary Flood

Client-server computing is the answer to a data processing manager's prayer, right - you just plug a few Windows machines together, stick Sybase on a Unix server, maybe bung in a gateway to talk to the IMS database on the mainframe, and Bob's your uncle, right? (And client-server means the same as Unix and downsizing, of course.) What could be simpler - they're all standard pieces by now. And hey presto, you save millions of dollars, automatically, overnight, guaranteed. Because client-server is cheaper, right? Old computer solutions are evil and were concocted by people who fought in World War II, and we know better, correct? And open systems means the best deal for the customer because choice guarantees quality and honesty? Richard Finkelstein, president of Chicago-based Performance Computing Inc begs to differ. At DB/Expo San Francisco last month, he explained why. You see, he wants to go home at a normal time occasionally.

Odd weekend free

He'd like to have the odd weekend free, and take his children to the zoo. What's his problem? "I'm tired of the 5pm-to-midnight shift and I'm tired of working every weekend. I spent a whole weekend once on a client-server bug that turned out to be a Goddam printer cable problem! I think it's a good thing Bill Gates is getting married, because then he may find out there's more to life than working on computers," thundered Finkelstein at the start of his "Evaluating and Using SQL Client-Server Software" seminar. He is a dedicated software professional, who believes in what he does. So when these client-server bolt-together systems you believe are so easy to build don't work, which is nearly all the time, he feels he has to try and fix them. He says he feels he's had a good day when the things print - just that, and he feels relieved and that he's accomplished something. And he's not going to take it any more, quite frankly. What is client-server? The simplest scenario involves, among other complexities, a set of function calls, or application programming interfaces, used by a software application to request information from a database, usually over a network. The interface sends requests or statements in SQL into the network library to talk to the right fragment of TCP/IP or named pipes or NetWare or whatever to get the data back. Every vendor provides different, specific bits, which you have to install. It's supposed to be like using the phone. It's not. "In reality, nothing is transparent to the network, where for instance, what memory chip you use can have a big impact," says Finkelstein. "Nothing is easy in this world - especially client-server. If vendors tell you it is, they're either naive or don't know what they're talking about."

Standards

Take standards. Take 'em and throw them away. We can evolve a Standard Rule right here: "By choosing a standards-based way of doing things in the client-server world, I am happy to sacrifice performance and features in favour of portability and conformance." Get real - this is the world of computer vendors like IBM Corp and Oracle Corp, remember. Take middleware. It's very important in building client-server systems. One of the basic components is the application programming interface level. At the top level sits the application - if you've lost track of why this is important in all this chaos, that's what we're supposed to be doing all this for - which may speak to Excel, or Focus, or PowerBuilder or whatever. Underneath may be a whole layer: Excel using Microsoft Corp DLL calls, the PowerBuilder application speaking to a relational database API like Sybase, a "standard" API like Open Data Base Connectivity, or Focus speaking to a "gateway" API like EDA/SQL. (All of these may be intercommunicating with each other at this level). Then this layer will be speaking to specific database drivers, which will speak to local network drivers or to a wide area gateway. Now in the bad old days, goes the argument, you had to use the API that came with Oracle or Informix or whatever relational database, so you had to stick with that one. So what users really wanted, or were told they wanted, was an open interface so they could have one for all uses, have portable applications, not be dependent on one relational database vendor and so forth. This is what things like SQL Access Group and such are all about. The promise is that we'll end up with one interface that works with all database servers. But! Following the practicality line, think about it: using the native relational database API maximises performance and functionality (remember, the Standard Rule), and means it's not dependent on any other vendors, meaning release synchronisation is much easier.

SQL Access Group

This point is incredibly important to understand. Consider a consortium like the SQL Access Group. It's made up of 44 vendors. Have you ever seen anything useful come out of a body with that many (often viciously competing) players? The Group has tried, nobly, to wrestle with some difficult issues, sure - SQL syntax and semantics differences, codification of data types, error handling and reporting, catalogue table issues and do forth. But as Finkelstein says, "It's not completed, IBM does not participate, and no-one has implemented it and no-one will." Why? Because there are already too many standard APIs, and they're not provided by neutral bodies - most are either for or against Microsoft or IBM. Instead of proprietary APIs we have standard proprietary APIs! This covers ODBC, IDAPI, Oracle Glue (or as Finkelstein jokes, "Glue users to Oracle - this appears to be another marketing announcement with no engineering") and so on. Microsoft's Access does not support the latest ODBC. So the vendor can't even support its own standard! Consider ODBC. It's based on the SQL Access Group call level interface - with "extensions." It's still evolving. It's still got big performance and memory overhead problems. There are few drivers built, and it's hard to build one. There are many sorts of conformance levels, core, level 1 and level 2. It's also owned by Microsoft. That means to build drivers, (a) you have to depend on Microsoft to keep synchronised with all the other vendors' new relational database APIs - and standards are always behind the latest release - and (b) as a vendor you have to go to Microsoft and tell it what you're going to be doing with your database so it can build the drivers! Follow it through. The application talks to the IDAPI API which talks to the IDAPI driver which talks to the ODBC API which talks to the ODBC driver... what if they don't translate properly? What if they're unable to translate? What if they translate but it takes so much steam out of the system the users throw their mice at the screen in disgust? What if vendor A's release is one release behind the ODBC spec vendor B is following? What if Microsoft decides it wants to favour vendor P's implementation of row level locking over vendor Q's? What are you going to do - cry? You may want to open the window in shock at this point. It's a cliched image, but this really is the Emperor's new clothes time. We're all for standards in some way - it should be the genuine route for user independence.

Kids to the zoo

But in the real world, the world where you want to be able to have time to take your kids to the zoo, the free market has given us just a mess (Finkelstein's phrase). Things like ODBC are not useful to you, or likely to be before the next Ice Age. Do not bother reading about them. Do not listen to a vendor telling you about them. Do not buy a product because it says it conforms to open standard X. Do not expend effort tracking which vendors say they adhere to any of them. Build simple, useful computer systems, systems that work, that won't drive you into the ground building, and that won't take three times as much maintaining as the old dumb terminal version. If that means buying everything from one vendor - do it! As Finkelstein says, "Homogeneity means more time spent on application development and less time spent on interconnection and other networking issues. It also means more time with the family - and having a life. Just write to the native API already! Write an application for one database server - if you can do that you'll still be ahead of the game. But in fact what you should do is hint to your rivals that you're not, so you'll have a dozen applications in the field while they're still layering IDAPI on ODBC APIs..." is Finkelstein's sly advice. We've picked on one tiny part of the client-server world to illustrate a point: these systems are not as easy to build or maintain as you're told.

SEQUOIA GOES TO DIAB DATA FOR C & C++ FOR ITS FAULT-TOLERANT UNIX

Marlborough, Massachusetts-based Sequoia Systems Inc has adopted the C and C++ compilers and development tools from Stockholm-based Compagnie des Machines Bull SA affiliate Diab Data AB. The compilers and tools will be incorporated into the next release of Sequoia's fault-tolerant Unix operating system. Sequoia expects to have Diab Data's compilers and development environment available on its multiprocessing Unix System V computers by the first quarter of 1994 for both existing 68040 and future machines that are being designed using the Hewlett-Packard Co Precision Architecture RISCs.

HP HELPS FUND NEW LAB AT INFORMIX

Hewlett-Packard Co, which already owns 15% of Informix Software Inc, is getting even closer to the Menlo Park, California relational database vendor. Yesterday the two announced that they will jointly build and staff a research and development laboratory at Informix's Menlo Park headquarters, for completion this summer, to maximise overall speed and optimisation of Informix products on HP 9000 Series 800 Unix business systems and servers, starting with Informix-OnLine. Informix also now becomes a partner in Hewlett's Mainframe Alternative programme.

SAP TEAMS UP WITH HP FRANCE, AXIME, AXISSE

SAP France SA has signed a partnership agreement with Hewlett-Packard Co and software consultants Axime Ingenierie and Axisse, in which the three companies will provide a comprehensive service for integrating SAP's R/2 and R/3 enterprise management software. R/2 is SAP's mainframe version of the application, while R/3 is the Unix-based client-server edition. Axime Ingenierie, which is a subsidiary of France's fourth-largest software and systems house Groupe Axime SA, specialises in banking, insurance, manufacturing and distribution sectors. Axisse was one of the first software consultants for SAP products in France.

NOVELL OPENS SOFTWARE DEVELOPMENT CENTRE

Last Friday in San Jose, Mayor of the City Susan Hammer was formally opening the non-profit Center for Software Development. Attendees at the ceremony saw demonstrations of new computer software and hardware technology, including pen-based mobile computers, business software, virtual reality systems and animation and games, all using software like that developed by members of the centre, which was created to help software firms and individual developers to bring better software to market more quickly. It was originally formed by the City of San Jose, Novell Inc. and the Software Entrepreneurs Forum and now involves many other computer, software and support companies. Developers can now test their software at the centre on and with a wide variety of hardware and software donated by members such as IBM Corp, Sun Microsystems Inc, AT&T Co, Intel Corp and Go Corp. It also houses the Software Industry Resource Center, a repository of business and technical information, including a database of firms that help and support software companies - investors, lawyers, accounting firms and marketing and technical partners. An International Lab helps adapt products for sale abroad.

EASEL RELEASES NEW UNIX GUI TOOL

Easel Corp has introduced Enfin, an object-oriented graphical user interface development tool for Unix and Microsoft Corp Windows NT. The software, based on ParcPlace Software Inc's object-based language SmallTalk C++, lets users to build 32-bit client/server applications across distributed environments, the firm says. Enfin applications also run on OS/2 and Windows platforms. It includes a WYSIWYG screen designer, point and click database query editor, database browser, report writer, a visual financial model editor, class browser and a debugger. Enfin supports a variety of databases including Oracle, Sybase and Informix databases. The tool is available first for IBM's AIX operating system and support for Sun Microsystems Inc and Hewlett-Packard Co platforms will follow by the end of the year. A Windows NT version is scheduled for release the first quarter of 1994.

APPLE DENIES "SCULLEY TO LEAVE APPLE"

Apple Computer Inc is firmly denying a report in the San Jose Mercury News which suggested that chairman John Sculley is likely to leave the company after he completes a summer sabbatical in August. The report News quoted two unnamed sources "with high-level connections to the company" as saying Sculley was unlikely to return to the company after he completes the sabbatical. "John Sculley has absolutely no plans to leave Apple," Apple spokesman Christopher Escher told Reuter. But the core of the Mercury News report was the suggestion that the switch that saw Sculley replaced as chief executive by Michael Spindler was not initiated by Sculley himself, but by a board unhappy with the performance of the Apple share price - down 40% since January. Sculley "was surprised," said one of the sources, a "highly placed" Apple executive. The board was disappointed with Sculley because "he took his eye off the ball," the Mercury claims, by failing to get enough computers manufactured to meet strong demand and by spending too much time on futuristic projects and courting the Clinton White House. If Sculley were to go in the circumstances described, it would mirror his own ousting of co-founder Steve Jobs from the top job. The Mercury also quotes the Apple denial, and notes that in interviews after his resignation from the chief executive's job, Sculley denied any intention to leave Apple.

INTERLEAF BUYS AVALANCHE FOR \$5.5m

Waltham, Massachusetts-based Interleaf Inc announced last week that it had acquired Avalanche Development Co and warned that it would report a \$1m operating loss for its fiscal first quarter. Interleaf paid \$5.5m cash for Avalanche, which provides document analysis and conversion technology and services, with particular emphasis on Standard Generalized Mark-up Language. Avalanche will operate as a wholly-owned subsidiary from its Boulder, Colorado base. Avalanche develops software that can process large volumes of electronic documents, analysing their content and structure, so document management systems can access, control and reuse information. On the financial side, Interleaf says it expects to report a loss from ongoing operations of about \$1m or \$.06 per share on sales of \$27m for the fiscal first quarter to June 30. It blames revenue shortfall as a result of the continued weakness in the European market and its inability to close a number of major opportunities by the end of the quarter. It will also record a \$1.9m charge for an accounting change.

O2 HELPS CINCOM BRIDGE RELATIONAL-OBJECT GAP

The joint development agreement signed last week between Versailles-based O2 Technology SA and Cincom Systems France SA is aimed at the medium-term needs of users, says Francois Bancilhon, managing director of object-oriented technology start-up O2. In the US, the Cincinnati, Ohio company has signed a similar deal with Ontos Inc, Burlington, Massachusetts. Using Cincom's Supra Server relational technology and Sequelink, which was developed by Belgian-based Gnosis NV, O2 plans to develop all of the software necessary "to facilitate the task of the developer who has to use relational data in an object-oriented application," Bancilhon said. "People are requesting the connection between relational and object databases, but they are not buying it yet," he said, adding that he expects that situation to change within the next couple of years. O2 aims to develop a generalised relational link that will function with other commercial relational databases, he said. The technology will be developed with the help of Europe's Eureka research and development programme, which has awarded O2 a 30-month contract worth \$6.3m. Bancilhon says a first version of the link should be completed within a year, however. Cincom plays no role in developing the technology; what does it gain from the venture? Says Bancilhon, "Cincom gets to demonstrate that its relational technology is open to new technologies." He added that the two companies plan to do some joint marketing of the resultant link product and that Cincom may include the product in its catalogue, although such a deal has not been yet negotiated. Bancilhon also disclosed that the company has made a sale to French automaker Renault SA, which resulted from a request made to Renault's information technology managers from a user group.

HP FUSES OBJECT METHODOLOGIES

Hewlett-Packard Co will publish specifications for a new object analysis and design methodology called Fusion in September. HP claims, the methodology is a second generation object framework designed for distributed client/server environments. Fusion, born out of an in-house survey to evaluate the types of object methodologies HP uses, embraces the best features from the most widely used object methods - including Rumbaugh, Booch, CRC and Objectory - HP says. According to the firm, it's synthesised and enhanced these characteristics such as message passing, object relationships, graphics and object interaction to a higher level of abstraction. Two HP divisions in Grenoble, France and another in Singapore have already standardised on the method for future object development. A major CASE tool developer, as yet unnamed, is also working with HP to develop a Fusion-based tool. It's also scheduled for release in September. Fusion specifications are being published by Prentice Hall. In the meantime, the company has also signed a joint development agreement with Informix Software Inc to integrate Informix's Allbase storage management software with OpenODB, HP's object-oriented database. HP, which has a 20% stake in Informix, says Allbase will enable users to develop and access ODB applications across multiple Unix platforms - OpenODB is currently an HP only solution. It'll also let OpenODB hook into Informix third party tools and different Unix platforms. Support for Microsoft Corp's Windows NT may follow in the future via Informix's NT developments (UX No 440). OpenODB/Allbase is scheduled for release by the end of the year, HP says. HP is also developing a SmallTalk interface for OpenODB to allow users to develop and access persistent C++-based applications, databases and tools.

HUNGARY DENIES ITS OPEN SYSTEMS POLICY IS IN DISARRAY

The Coordination Office of Government Information Systems at the Prime Minister's Office in Hungary has refuted suggestions that its 'open systems' sourcing policy is in a state of disarray in the face of criticisms from local suppliers. A statement released by X/Open Co Ltd, on August 7 last year, reported that Hungary had become the first European Administration to commit to using the key Unix standard XPG/3 in procurement. However, conformance to the open systems standard has not been made mandatory in major ongoing and future tenders to automate the Tax office (APEH), social security system and National Employment Fund. The combined value of these contracts is likely to be well in excess of \$50m.

Applauded

Last year, ICL Plc country manager Ian Leach told Unigram "At the time we applauded the decision, but we have yet to see much evidence of major compliance. If they carry it through, they will reap the benefits." The marketing representative in the government section of a large blue-chip US supplier who was not quoted in the original article stated: "When they asked DEC if they would supply open systems, DEC said 'yes', so they said, 'OK we'll continue to buy from DEC as before'. They believe XPG/3 is good and we saw a commitment to it, but who knows what tomorrow will bring." Reacting to the coverage, Janos Horvath, Senior Councillor of the Government Secretary of the Inter-Ministerial Committee for Information Technology, said "We have definite thoughts about our plans. The government does understand what XPG/3 means, it's just a question of implementing it." Officials explained that as yet the Hungarian government had only stated its intention to make XPG/3 compliance mandatory and conceded that information on this policy statement had not yet reached all levels of government. Horvath went on to argue that as yet the government does not have the legal framework needed to insist on the technical specifications of computer systems bought by its independent agencies, where purchases are self-funded. Though Horvath argued it was "naive" to believe change would come in a single process he announced that the Inter-Ministerial Committee is trying to create a system of centralised procurement with the aid of PHARE funding, in which outside consultants would have a role. In the interim, some confusion on the part of computer suppliers seems likely to remain a feature of the market. Horvath noted: "All you can do is hope that people will get the right signals and try to modify - and eventually this will be policy and it is something they will have to face."

SOLARIS 1.1 NOW AVAILABLE ON MICROSPARC CLASSIC AND LX SYSTEMS

As expected (UX No 442), SunSoft Inc last week said it is now offering Solaris 1.1 (SunOS) as an option on its entry-level microSparc-based Classic and LX workstations after pressure from corporate users. European and Asian language versions will be available in 45 days. Previously the machines were only configured with the Unix SVR4-derived Solaris 2 - which is incompatible with many of the existing BSD Solaris 1.1-based applications. Customers have to purchase Solaris 1.1 as an additional item on top of Solaris 2. Indeed, to try and speed up the pace of transition to Solaris 2, SunSoft is extending the functionality of many of its migration tools. The Solaris 2 binary compatibility package, which currently allows dynamically-linked Solaris 1 applications to run under Solaris 2, is being updated to include support for statically-linked applications. SunSoft says this should allow more third-party and in-house Solaris 1-based software to run unchanged under Solaris 2. The extended package will be bundled with the next releases of Solaris, version 2.3, expected sometime in the Autumn. The company will also offer a network transition kit that'll allow users to run their Solaris 1 NIS network configuration and administration server software on Solaris 2, while they get to grips with NIS+ which features on the new operating system. The transition kit costs \$125 for a site licence and is due in 60 days. The company claims to have shipped 250,000 Solaris 2 licences in the last six months and says 650 applications are now up under the environment. It has signed Bell Atlantic Business Systems Service, Computervision and CSA Automated Systems, Singapore, to provide Solaris service and support, and has 15 new Solaris training and education centres around the world including Siemens SG in Germany, Georgia Institute of Technology in the US and Tower Education in the UK. There is also a new Solaris communications centre which will provide daily migration information over e-mail such as product updates, technical articles and access to patches. +1 510 460 3267.

BANK OF ENGLAND REVEALS TAURUS SUCCESSOR

Last week the Bank of England published proposals for a replacement for the ill-fated Taurus share settlement system. The Bank is taking over control of the project from the Stock Exchange which has largely lost the confidence of users, traders and software houses alike. The Bank's says it wants a much simpler system than Taurus. A sneak preview of the bank's thoughts were presented last Thursday by the City Consultants, which liaise between the Bank and the Security Industry Software Association. An interim measure has been proposed whereby the Stock Exchange itself will upgrade its existing Talisman Share trading system. Currently Talisman works on an account period basis. Under the new rolling settlement scheme, due to be in place by July 1994, shares will be paid for 10 days after they are bought, and a reduction to five days is envisaged six months later. The proposed system retains both money brokerage and share registrars in their current form, where Taurus was to computerise these functions.

START-UP OPENVISION ACQUIRES DEMAX

Unix systems management outfit, OpenVision Inc, Pleasanton, California, has acquired four year-old security management software company Demax Software Inc. OpenVision will use Demax's SecureMax and SystemDetective products in its forthcoming OpenV*opss systems management solution, due in December that is expected to run on Unix, OpenVMS, HP MPE and proprietary IBM Corp environments. OpenVision will take over Demax's 40-odd staff and its international offices in Canada, Germany and the UK. Demax, thought to be OpenVision's largest acquisition to date, is the first of a number of new additions to the company's technology portfolio planned over the coming month. Also to come are new storage management and print spooling and management software - announcements are expected as soon as this week. In addition, OpenVision is also seeking other operations management, help desk and performance and asset management technologies. OpenVision is currently working to integrate the various components of OpenV*opss, some of which have been developed in-house, others that have been brought in. It will offer a common desktop to access the various modules, and although it expects all infrastructure elements to be in place by December, it says there will be more integration effort needed to get the technologies to work with each other. OpenV*opss will be sold as a complete environment or unbundled as separate applications.

HEWLETT-PACKARD'S GUIDON ON COSE, MICROKERNELS, NEXT AND ALLIANCES

By William Fellows

Seems the COSE firms have pretty much worked out between themselves how far they think they can go in technology terms, the talking now concerns the more difficult task of how to make it all happen, according to Hewlett-Packard Co's European Computer Systems Marketing Manager Bernard Guidon. COSE's Xhibition debut a few weeks ago drew more than a little amount of consternation from users who felt they had been left out of the discussions about what vendors have in store for them, however Guidon believes as the effort progresses, COSE will increasingly fall into "the shadow of X/Open," and that's where users should participate. The common desktop environment specifications should put X/Open back into the frame, he says. As he sees it, X/Open has been unable to resolve the long-term question of a common or standard interface and that it's taken an initiative like COSE to create the momentum required to bring these issues to book.

Because COSE has no organisation and therefore no marketing presence as such, X/Open is expected to become the marketing interface for COSE specifications. Guidon believes HP will be first out with a COSE-compliant desktop product - by the end of the year - because with Motif and the Visual User Environment, "we're 90% there already," he claims. IBM Corp will follow soon after, he believes, with Sun Microsystems Inc having probably the most to do to bring its Open Look-based interface technology into line. Many of the basic technology questions issues that COSE tried to settle in its early days were highly emotive issues for Unix System Labs while it was still with AT&T. As soon as the planned acquisition by Novell Inc was announced "then we were able to proceed rationally," says Guidon. He maintains that COSE will not address the issue of a common Unix kernel per se, but agrees the adoption of a range of kernel strategies by vendors has restricted the ability of users to integrate different systems, ultimately slowing the uptake and sales of new technology. Application programming interfaces must be the way forward to unifying Unix, Guidon believes, as existing kernel technology developments are now too entrenched - or the issues still too emotive - to be settled any other way. "No-one is working on unification of the kernel," he says, and in any case the kernel by itself isn't important to users, he argues.

Kernel strategy

Hewlett Packard's kernel strategy for its own HP-UX Unix implementation remains something of an unknown. Although the firm has indicated its intent to offer more compliance with USL's Unix SVR4, that shouldn't be taken as an indication of any intent to move the HP-UX kernel in that direction. "We're not saying we're using the Open Software Foundation kernel, or the USL kernel. We want the best technologies to be able to deliver what customers want. Even if we find a technology in [Microsoft Corp] Windows NT then we'll put it in there [HP-UX]. If no-one can offer what we want then we'll do it ourselves or try and find third parties to do it." Choice of kernel is nevertheless a critical element in any operating system strategy, admits Guidon. To develop it and put it on hardware takes years of work and millions of dollars. "You make that decision once every ten years and you don't make it lightly, because you don't want to change it after two years. Consequently we're making that decision very carefully." HP has great momentum at the moment, argues Guidon, but developing on or for a new kernel would mean that resources would have to be taken away from maintaining that momentum, and that's something the company doesn't want to do. On the other hand the firm "obviously doesn't want to continue with the same version of HP-UX for the next ten years, consequently the timing is crucial in terms of momentum and internal development." Guidon says HP is also evaluating whether to go with a microkernel technology for the next generation HP-UX system, or an object-oriented system. "That's the decision we're trying to make at the moment - it hasn't been made yet," he says. HP is doing object development work with IBM (UX No 441), and is looking at various microkernel systems "from a business and technical perspective," but Guidon says it's far too early yet to think about going with the IBM/Apple Taligent Inc operating system for instance. HP's problem is that whilst users aren't too concerned about that decision at the moment, it is nevertheless one that HP has to make. It's therefore certainly not these kinds of long term technology plans that will allow HP to maintain its current momentum in the short term.

The key to maintaining momentum, Guidon believes, lies in being able to create the right channels of distribution to match customer needs with products, learning from other industry models where necessary. The crucial element which determines the success or otherwise of being able to maintain growth is what Guidon calls HP's win/loss ratio: the firm's ability to win new customers against the competition, something that's definitely restricted to its Unix business. Guidon believes HP has the products necessary to win the business on which it competes in most situations. Where it doesn't win, he argues, is because the company doesn't have enough feet on the street - OEMs, resellers, distributors, VARs or direct sales people - to be able to talk to everyone. "When we do compete, we win," says Guidon, "but we're not able to compete enough because we don't have the channels. Some vendors compete everywhere but don't win enough. They need to increase their win/loss ratio. We have a fantastic win/loss ratio but don't compete enough. From a technology point of view, however, we're fine." The pressure is most definitely on HP to sustain its recent momentum. To broaden its channel exposure Guidon plans to sign a slew of resellers and partners and expects to see more solutions providers offering their wares on HP platforms - telesales and telemarketing operations will be ramped up too. The company will increasingly focus on what it perceives as the largest sector to which its win/loss model has yet to be applied - the IBM Corp AS/400 market, where it has recently signalled its intent, striking a deal with Synon Corp (UX No 442).

NeXtStep and Windows NT

HP's recent agreement to port the Next Computer Inc NextStep environment to its platforms for the financial and banking markets is a good illustration of the way forward, says Guidon. "Next has done well in specific financial accounts, outside that niche many users don't know or care about NextStep. Steve Jobs wanted out of the hardware business, we wanted to sell into those markets. So it was win win." It also makes sense, argues Guidon, for HP to become an integrator for what he perceives to be the current object-oriented market leader. "There's a lot we can learn from the relationship with Jobs, and we get a new set of customers. The important aspect is not the return on the investment we are able to get from an accounting point of view, but the exposure it gives us to new technologies plus the niche accounts." The relationship with Next is not, however, a strategic technology development partnership like the deal with IBM, Guidon emphasises. Guidon doesn't expect Microsoft Corp Windows NT to become a dominant force or threaten HP any time soon. "Microsoft wants to take on the world with NT, the marketing was unbelievable. So NT is a desktop, a client/server system or a LAN server. One size fits all. I don't believe it can be successful from the start, because customers must be confused, they don't know what it is good at and what it is not. It would have been better to say this is a high-end desktop and a year later say it is also PC LAN server. One step at a time. Partners don't know what to do with it and MS-DOS and mainframe users may have it but don't know what to do with it." Meanwhile, HP continues to strike alliances with and at the same time fight against the same adversaries. "That's open systems," argues Guidon, "at the same time you are a customer of each other, you have cooperative agreements and you are a competitor too."

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Tivoli Systems Inc, Austin, Texas, has announced a slew of third party network and systems management applications and services that will work alongside its Tivoli Management Environment, key component of the Open Software Foundation's Distributed Computing Environment. They include Hewlett-Packard Co's PerfView distributed performance manager; Cygnus Support's Kerebos-based security system; Epoch Systems Inc's backup software; OpenService SJI Inc's network monitoring system; ProTools' network analyser; Remedy Corp's help desk system; Santix Software GmbH's network integration package; and System Architecture Inc's Autosys job scheduler. Tivoli's TME is upon Sun and HP workstations - Windows NT support follows next year. Mountain View, California-based Remedy Corp has also ported its help desk to NCR Corp's StarSentry systems management environment running the firm's System 3000 series - prices start at \$6,500.

Sun Microsystems Inc is expected to debut its latest planet this week, a support and services division (UX No 435): it'll be headed by Larry Hambly, the division's current manager.

SunSoft is also offering a new certification programme for testing and certifying systems and peripherals for its Solaris x86 Intel Corp environment.

Unix System Labs is to bundle the development portions of Southborough, Massachusetts-based NobleNet Inc's EZ-RPC technology, including run-time libraries, with Unix SVR4. EZ-RPC converts C programs into applications that can run over heterogenous client/server networks without re-designing or re-coding. NobleNet will continue to sell the EZ-RPC compiler which generates communications code that uses the transport-independent RPC technology already found in Unix SVR4.

Interactive Development Environments Inc has named former ASG chief executive officer and Ingres vice president, Chris Kember, as its new president and CEO: IDE founder Anthony Wasserman remains chairman of the board.

IBM has announced immediate availability of software speech recognition development tools for the OS/2 and AIX environments. They include ICSS/2 Developers Toolkit and ICSS/2 Runtime System for OS/2 and ICSS/6000 Developers Toolkit and ICSS/6000 Runtime System for AIX.

Not to be outdone, **Sun Microsystems Inc** says much of the real life cutting-edge dinosaur research being done in the US is carried out on its workstations, knowledge which Spielberg was able to use in the film. Indeed, it says palaeontologist and Sun workstation user, Jack Horner, from the Museum of the Rockies in Montana, was the model for Jurassic Park's lead character, and that Horner was also Spielberg's dinosaur advisor.

The appointment by Louis Gerstner of Bernard Puckett to the key post of strategic planner at **IBM Corp** has not gone down too well in all quarters: "How can you pretend that you're changing things when you're appointing the insiders to top jobs? That's not going to signal a message of change to anyone," Bob Djurdjevic, president of Annex Research Inc of Phoenix commented to the Wall Street Journal.

Sun Microsystems Inc, which until a couple of years ago was coming to the market - or to AT&T Co - for additional cash with remarkable frequency, is now ready to give some of it back again: it says it plans to buy in up to 10m shares, or about 9.5% of the total outstanding, in the open market; it bought in 7.5m in the past 12 months, and says that it reckons the current market price does not match value.

Novell Inc, a bit uncomfortable at the number of new shares now in circulation following its acquisition of Unix System Laboratories Inc, says it plans to buy in the same number as it issued, 11.1m, using its cash resources and buying from time to time in the market; unless they sell, the move will up the stakes in Novell held by former Unix Labs owners, notably AT&T Co, whose current stake is about 3%.

Sun Microsystems Inc held its regular conference call with analysts, and said it was experiencing good demand in the current quarter - strongest in the US, next best in Asia and weak in Europe; sales for the full year, which ends June 30, are expected to be good; Sun said its Sparcserver 1000 was its most important box since Sparcstation 2.

Apple Computer Inc chairman John Sculley, who last week announced he would step down as the company's chief executive, says he sees his future role as focusing on the new world of digital technology, Reuter reports from the Seybold Digital World fourth annual conference in Los Angeles: "It's incredibly confusing," he said, "no one is quite sure where all of this goes, but we know it takes a huge amount of time to be able to sort out what the possible options are," he said.

Tandy Corp says it expects to close the sale of its personal computer manufacturing business to **AST Research Inc** on July 15. AST will take on about 2,000 employees, leaving about 100 people from Tandy's computer divisions in Fort Worth, 70 at Grid's headquarters in Westlake, Texas, 150 more elsewhere in the US and 180 in Europe without jobs. Tandy will continue to market and service computers via its retail divisions and its Radio Shack stores will continue to sell a proprietary line of Tandy computers; AST gets three manufacturing facilities in Texas, and one in Scotland; a three-year supply agreement with Tandy; Tandy's pen-based and multimedia personal computer technologies, including a portfolio of over 60 computer-related patents; and grid sales units.

Hewlett-Packard Co and **Locus Computing Corp** have signed a joint development agreement to develop distributed computing solutions for clustered workstations using Locus' Transport Network Computing software technology.

Hewlett-Packard Co and **Lotus Development Corp**, which already have a deal on the thing for the HP100LX handheld, have now agreed to integrate the Lotus cc:Mail Client with Hewlett-Packard's OpenMail messaging system: the deal covers co-operative development, marketing, distribution and support of the thing.

Novell Inc has not been quick to commit to Microsoft Corp's Windows NT, though whether that is due to its own reluctance or doubts of Microsoft's delivery ability is not clear; it is now saying NetWare for NT will be out by May 1994.

Compaq Computer Corp is to distribute IBM Corp's OS/2 2.1 through its reseller channels and will support it on all current machines. And **Unisys Corp** has also come to an agreement with IBM to sell OS/2 on Unisys PCs, and in the future on its "open" A Series servers.

Sun Microsystems Inc knows why Brazil is known to its native inhabitants as the kingdom of the ants. It got an e-mail from its local representative down there asking how to get rid of bugs - ants nests to be precise. Apparently a user had turned his workstation off for a few days and on returning to power the thing up was greeted by some nasty crunching and popping sounds. Opening the lid he was greeted by an army of ants whose nest-building had been rudely interrupted by his machine's Sparc CPU and disk subsystem coming to life. Pest control was hurriedly dispatched and the system was soon up and running - just proves that Sun knows its stuff when it comes to bug fixing.

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UNIX SYSTEM LABS, UNIVEL, FOLDED INTO UNIX SYSTEMS GROUP - ALL PRODUCTS, INCLUDING UNIX, TO BECOME "UNIXWARE"

The integration of Unix System Laboratories into Novell Inc, both as a company and a technology, began in earnest last week when Novell announced it was moving USL and the Univel Inc joint venture into a newly created Unix Systems Group (USG) under Novell executive vice president Kanwal Rekhi, one of the key architects behind the merger. Univel will be folded back into USL and cease to exist, Rekhi said, because USL as a strictly source code provider is not a viable business. The new group also includes Novell's own NetWare for Unix operation, located in Sandy, Utah. Novell's Connectivity Products Group in Provo, Utah is expected to be part of USG too. That phase of the restructuring, however, has been delayed. When it moves over, the new group's revenue base could be in excess of \$500m. Despite the restructuring, USL will continue to function as a free-standing subsidiary. It will continue to sell source code. However, the code it now sells will include NetWare functionality to be used or not as the buyer chooses. And all products sold by any of the elements of the new Unix Systems Group, including Unix itself, will bear the single brand name UnixWare, the trademark sported until now by the Univel product line. As the joint venture between USL and Novell, Univel's product was Unix with NetWare hooks aimed essentially at the volume Intel Corp iAPX-86 platform. Its brand name - and functionality - will now be used for software spanning the desktop through the mainframe, a "UnixWare EveryWhere" policy meant as a counterweight to Microsoft Corp.

Coup d'etat

In the six months that Novell's takeover of USL has been pending, Novell has been reluctant to admit publicly that it would meld NetWare and Unix together, despite the obvious purpose behind the merger. For the first time last week, Novell said it was anxious to consolidate development as quickly as possible. However, it is still downplaying the Unix technology, products and programs going over to USG from Novell. Novell suggested that it would license the source code to other products and technologies in the future but did not identify what they might be. Rekhi indicated it could include non-Novell stuff, depending on what USL is found to need. Novell called USG's formation the "critical first step" towards a cohesive Unix strategy. The restructuring bears earmarks of a coup d'etat. USL president Roel Pieper has been shuffled to one side and given the task of defining an enterprise strategy for Novell, a short-term exercise expected to last through August. He retains his USL titles of president and chief executive officer, reporting to Rekhi, but, in the opinion of some, is now effectively a lameduck. One candidate flagged as a possible replacement is USL's current second-in-command Mike DeFazio, whose steady hand on the tiller has won the confidence of its OEMs, something Novell and USL will need through the transition period. DeFazio's self-effacing personality also squares with the down-home values of Novell. Univel president Joel Appelbaum, who also reports to Rekhi, is believed to want the job too. Rekhi made it quite clear that he had been given the USG job because he shares Novell's value system even though he is an outsider. "Joel and Roel are not Novell people," he said, and not having a Novell man at the helm was "untenable."

Conflict of interest

Novell got its support for the move from its key customers, the traditional basis for its actions. It did not seek consensus from or inform USL's OEM customers of the restructuring, setting off a flurry of concern when the on-line edition of Unigram.X broke the story at press time last week. Novell's moving both source code and binary into the same operational unit is expected to raise cries of conflict of interest from OEMs such as Sun Microsystems Inc. It is also expected to raise the spectre of Unix becoming a proprietary operating system, perhaps with some justification. On a trip to Australia at the beginning of July, Novell vice president of strategic development Jack Blount was heard to remark that "Unix will be proprietary. We own it. We will have one application programming interface for people to write to. Access to source code will not be available to everyone. That's what got Unix into its current state of 228 versions." Denying that OEMs would protest the source/binary combination, Rekhi said USL will now be more focused on finished end-user-oriented volume products than in the past. Pursuit of volume is the key to Novell's future security against Microsoft. OEMs will still be able to tinker with code to optimise it for their platforms, Rekhi said. However, he believes that the Intel model being put in place, with its financial efficiencies, will persuade OEMs that it is the same kind of code they want from USL for other processors.

INTERGRAPH-SUN DEAL STARTS THE WINDOWS NT-ON-SPARC

TRAIN ROLLING

Intergraph Corp, the Huntsville, Alabama-based engineering Unix workstation company that does everything from beating its own tin, designing its own RISC microprocessor to printing its own brochures, is effectively throwing in its lot with Sun Microsystems Inc in a move that will see it put Microsoft Corp Windows NT up on the Sparc. Intergraph plans to implement NT on new high-end Sparc-based systems that it'll deliver in 1995. The company has already shown NT running on its existing Clipper RISC-based systems and on a line of recently announced Intel Corp Pentium boxes that'll make up the mid- and low-ends of its revamped product range respectively. Consequently, Intergraph's technical applications will be able to run on most NT machines whether they are made by Intergraph or not. Intergraph's long-term future as a Unix company is now in some doubt, as its Advanced Processor Division will help develop next-generation, high-end 64-bit Sparc microprocessors with Sun's Sparc Technology Business. There will, however, be a further two iterations of Clipper, the company promises. Its Unix implementation, however, won't go much further. Although originally a paid-up member of the Open Software Foundation, it was quite obvious some time ago that Intergraph had no intention of fulfilling its plan to move to OSF/1. Similarly, it says the BSD Unix System V.3.1-derived operating system it currently offers has now been enhanced with the necessary Unix SVR4 features that mean it doesn't see the need to move to offer a full implementation. Intergraph must retain its current Unix products for the foreseeable future, simply because of the amount of kit it is contracted to provide to the US Department of Defense. Intergraph's NT-on-Sparc implementation will support the little-endian byte ordering to be included in future Sparc implementations, and both Sun and it will have the right to use the resulting processors in their system-level products, while Sun will offer them on the open market. In the words of its president and founder Jim Meadlock, "we decided where the world is going and we better get on that train." Ever since its acquisition and turnaround of Dazix - the former Daisy Systems/Cadnetix CAD/CAM software combine now folded back into the company - Intergraph has had to support the Sparc RISC on the Sun machines Dazix developed for, and which Intergraph consequently supplied on an OEM basis. This latest news is a radical departure for the \$1bn company that was focused so exclusively on vertical markets that it has had no recent presence at any mainstream Unix exhibitions. Recently, however, it has suffered from weak earnings and a tumbling share price, and analysts don't expect to see any real improvements as a result of this announcement until 1994.

OBJECT EXPO EUROPE '93

By Alison Hawkings

In its fourth year, Object Expo Europe opens this week at the Queen Elizabeth II Conference Centre, London, July 12 - 16. Opening keynote addresses will be given by Larry Tesler, Apple Computer Inc vice president of engineering and Cliff Reeves, worldwide director of IBM's object technology products, on Tuesday 13 July. A range of seminars will also be held over the course of the week, covering C++, object-oriented databases, SmallTalk and CASE.

OBJECTIVE SOFTWARE DEBUTS OST-LOOK

This week, two year-old object-oriented software developer, Objective Software Technology Ltd, Livingston, Scotland, will introduce OST-Look, an animation tool which allows users to reconstruct an animated object-level view of a C++ program as it's executed. The firm, set up by two ex-British Telecom C++ software engineers using funds from the government run Scottish Enterprise scheme, has already signed up Admiral Software Ltd, Camberley, Surrey, to distribute OST-Look in the UK and is currently in OEM negotiations with Sun satellite SunPro. OST-Look is a graphical C++ monitoring system which runs under Microsoft Windows, Windows NT and OSF Motif. According to Objective Software Technology, the software extracts objects and class design-levels embodied in C++ programs and uses it to generate active object, class and message diagrams. Traditionally, most developers have just used debuggers, setting breakpoints when specified lines or functions are executed, to generate code information, says Eddie Anderson, OST's managing director. But OST-Look adopts a different approach. It uses the structure of object-oriented programs to select specified parts of code and represents the application graphically on screen. Multiple windows can be created to run up to five different views of a programme simultaneously. Other OST-Look features include: graphical replay, which lets users replay sequences of an application after it has been run; source viewing, which provides source-level debugging and editing capabilities; and data viewing, which enables multiple data browsing and editing windows to be created from an object layout. The software is available now for Sun Microsystems Inc and Microsoft Windows platforms - Windows NT versions will follow later in the year. Meanwhile, OST is currently developing an object-oriented testing tool for third party CASE development environments. It's slated for release in the third quarter next year.

ROGUE WAVE HAS NEW GRAPHICS LIBRARY

Corvallis, Oregon-based Rogue Wave Software Inc will preview Chart.h++, a two- and three-dimensional C++ graphics chart library at the show this week. It'll also introduce an enhanced version of View.h++, its GUI C++ class library, and launch Canvas.h++, a set of C++ structured graphics libraries. Chart.h++ supports a variety of standard charts including bar charts, histograms, scatter plots and 3D surface plots. Users can add new chart types and extend existing ones as required, the firm says. The tool also supports rotation, a flexible data model and device independent colour. Rogues Wave has also revamped View.h++ adding object-oriented support for OSF Motif 1.2 and X11R5. View.h++ now encapsulates all of the Motif interface in a C++ library, which enables developers to build GUI-based applications at a higher level of abstraction without directly accessing source code. It is available first for SunSoft Inc Solaris and support for HP-UX, AIX and SCO Unix will follow by the end of the year. A version for Microsoft Windows NT is scheduled for next year. Canvas.h++, an additional module to Chart.h++, will be released next month. Rogue Wave software is distributed by Hypersoft Europe in the UK.

Inference Inc will announce support for **Apple Computer Inc's** client/server application programme and make Art*Enterprise, its object-oriented application development environment, available on Centris and Quadra servers.

Menlo Park, California-based **Lucid Inc** will be demonstrating its C++ compiler, which provides pre-processors and template support for ARM C++, cfront 3.0 and ANSI C programming languages and Energize 3.0, its C and C++ programming system with added support for Purify Software Inc's Purify run-time debugger.

i-Logix will introduce an enhanced version of Statemate, its object-oriented CASE tool for client/server environments. The graphical tool comes with a bi-directional support a modelling system and code generator.

San Mateo, California-based, **Persistent Storage Inc**, will introduce Persistence, a software bridging mechanism which sits between object-oriented and relational databases and allows relational tables to be used with object-based C++ applications. It includes a database interface generator, which allows relational databases to access C++ applications as though they were object-oriented. A runtime object management system interfaces the bridge and the relational database to provide database access, transaction control and object caching. The software is distributed by **K2 Software Development Ltd** in the UK.

French software developer **Softeam SA**, Paris, is introducing Objecteering, its software engineering tool that automatically generates C++ applications from the company's Class Relation object model, at the show this week. Class Relation is claimed to encompass the entire software development lifecycle from specifications to coding. It also produces documentation. The software is available for Sun Microsystems Inc, Hewlett-Packard Co, DEC and IBM platforms. Objecteering is distributed by **Integral Solutions Ltd**, Basingstoke, Hampshire, in the UK. +44 256 882028.

San Diego, California-based **Expersoft Corp** will demonstrate XShell, a portfolio of module building toolkits and an object-oriented integration framework. The software includes a range of tools: XRule, a rule-based problem solving tool; XGenetic, a genetic optimisation kit which applies the theory of evolution to logic problems; and XFuzzy, a fuzzy logic tool. It supports a variety of Unix platforms, X Windows and Microsoft Corp Windows NT.

Amsterdam, Netherlands-based, **The Calvin Consultancy**, in association with its UK distributor **MSG Business Systems Ltd**, will demonstrate the latest version of Classify, its rapid application development tool for Windows, DOS and Unix. According to the firm, Classify is an application framework which includes a central repository to store designs and tools; domain integrity, which defines file levels; and referential integrity, which structures the relationships between files. +44 71 253 1268.

Attendees at the show should look out for **Select Software Tools Ltd** stand as they're giving away a free copy of C++ Designer, its object oriented Windows-based analysis and design tool, to every visitor. The tool, which supports Microsoft Corp's Visual Basic C++ and Borland International Turbo C++ development environments, allows users to structure and edit applications graphically on screen.

INFORMATION BUILDERS TO OFFER DEC, IBM, NT, OSF SUPPORT

New York-based Information Builders Inc will announce a new product and marketing strategy in September in a move to offer more commercially available products. It will introduce support for a greater variety of operating systems including DEC's Alpha AXP OSF/1, IBM's OS/2 and Microsoft Corp's Windows NT platforms and launch an object-oriented graphical user interface builder. The firm also plans to restructure its indirect sales channel programme. "In the past, the firm has concentrated on a small volume, high price tag strategy. It hasn't been too successful and it's been difficult getting our message across to users. But we're changing direction. We plan to focus on our growth areas, Unix and client/server, and the addition of NT will hopefully attract new business from the traditional personal computer markets," says Information Builders UK marketing director Peter Junker. Focus, Information Builder's 4GL software, and EDA/SQL, its middleware for accessing different databases, will both support DEC OSF/1 and Windows NT. They'll be available in client and server versions. The company has also developed an object-based GUI builder, as yet unnamed, it'll act as a front-end to Focus and be available separately as a shrinkwrapped product. Information Builders says the product is on par with PowerSoft Inc's PowerBuilder offering. A Unix version of EDA/SmartMode, the firm's expert software system that predicts resource usage of requests sent to a EDA/SQL server, will also be released in September.

TANGENT AND CARRERA MIMIC INDIGO AT HALF THE PRICE...

California-based systems integrator Tangent Computers and board maker Carrera Computers have teamed to produce a MIPS R4000/R4400 Silicon Graphics Inc Indigo-like workstation, based on the old ARC design and priced at \$10,000 to \$12,000, half SGI's high-margin \$20,000 to \$30,000 tags. The companies hope to have a system ready by the end of the third quarter. The main thing standing in the way right now is the little matter of the SGI OpenGL graphics libraries. Tangent can see several ways of doing it including going to companies like the old Pellucid or Matrox for it. It is looking for the most cost-effective avenue. Interestingly, Microsoft in complaining about SGI's lack of support for Windows NT to our sister publication *Client Server NEWS* warned that if SGI didn't cannibalise its own systems, someone else would. Meanwhile, the small Carrera, which has recently announced motherboards for for NT-on-MIPS and NT-on-Alpha, has reportedly been approached by both Hewlett-Packard and IBM on separate occasions about doing boards for the PA-RISC and PowerPC running Unix.

...AS SILICON GRAPHICS ADDS TWO INDIGO2 WORKSTATION MODELS

Ahead of its Guinness announcement this week, Silicon Graphics Inc unveiled two new Indigo2 workstations. The entry-level Indigo2 XL graphics system starts at \$18,000 and the Indigo2 XZ with three-dimensional accelerator in hardware costs from \$25,500. In the multimedia arena, the company is also offering a new video input-output and video special effects option, costing \$4,000.

BRINGING ORDER TO EUROPE'S TOWER OF BABEL: ICL- BULL-SIEMENS LAB DOES PARALLEL TONGUE TRANSLATOR

At their equally-owned pre-competitive co-operative research laboratory in Munich, ICL (UK) Ltd, Siemens Nixdorf Informationssysteme AG and Compagnie des Machines Bull SA have co-developed a parallel processing system that translates messages between natural languages as they are being sent between personal computers - but no-one could be traced who could describe the system in more technical detail. It is claimed to be fast enough to translate small, simple messages almost instantly, while 200 pages of text, in most languages, will take 20 minutes. This is a huge improvement on the best current systems that take eight hours to process similar volumes. The new processor also much more adept at handling colloquialisms and context than previous systems - though it is not word perfect yet. So, despite that fact that it is reckoned to operate at half the cost and be 35% faster than human translators it is unlikely, for the moment, to replace them. The system is expected to be commercially available in 1994 or 1995 with simultaneous interpretation the dream goal around for five years time. It is anticipated that the main application for the system will be the translation of technical manuals and papers, an area destined to account for over half of computer translation in the next few years. And, as the *Financial Times* reports, it could even be used simply for making technical jargon under standable - for interpreting complex legal documents for example.

CA TAKES ON INTUIT, MICROSOFT WITH SIMPLY MONEY

Although it's not strictly a Unix story it's fascinating nevertheless, and a measure of the man the Unix community will doubtless be doing more business with in future; Computer Associates Inc's Charles Wang. US software firm Intuit's home and business banking system, called Quicken, currently dominates in the US. Microsoft launched a competitor, Money. Now CA has come along with its contender, Kiplinger's Simply Money, and is cleaning up by giving the thing away free. Yet it's still making a profit. How? Well CA said it would give away the first million copies free, asking customers to pay only the \$6.95 shipping and handling charges. The company had shipped 890,000 copies as of a couple of weeks ago, and has spent some \$2m on advertising. Turns out that shipping and handling only cost CA \$3.95 a throw and it therefore stands to make nearly \$1m on the deal after advertising costs are factored out. Reason behind all this is apparently that CA wants to get into the home and small business personal computer software market in a bigger way, but considered the rental price of mailing lists far too high. Through its give-away deal it has bought itself a million names and recouped a million dollars into the bargain.

NOVELL HAS "LITTLE USE FOR UNIX CONSORTIA"

Kanwal Rekhi - see front page - has also acknowledged that Novell has little use for all the consortia created during the Unix wars. The Open Software Foundation being a case in point. Rekhi said he was unsure what could be done about it since IBM Corp and Hewlett-Packard Co continue to fund it. He is uncertain what IBM and HP are attempting to achieve or what their strategies are - see back page. However, he and Novell chairman Ray Noorda were supposed to meet with OSF president David Tory last Wednesday July 7, apparently at Tory's instigation, to begin discussing what can be done. On the other hand, Novell will continue to support Unix International, which it also must talk with, but not in its old capacity as a requirements body. It is interested in it as a forum for its OEM customers which it would rather meet collectively as a group than one-on-one. It can also help level the playing field for some 200 vendors, but UI is of limited use to Novell because it does not really represent end users. Novell would be far more interested in it if it could be made into a "superusers" group, Rekhi noted, along the lines of OURS, the users group that has been struggling to get organised and get a voice, a model Novell far and away prefers and to which it has been lending support. Of course, this is exactly what X/open has also been trying to do. Lastly, Novell applauds the "noble aims" of COSE but it is highly sceptical that COSE will be effective. Rekhi was a pains to point out that Novell was not a party to it, largely on the grounds that it's an "exclusive club" and a "vendors' consortium" with no customer involvement, though it allowed USL and Univel to participate. Rekhi said that if Novell begins to feel that COSE is failing in its stated purpose it will pull out. USG is Novell's fourth strategic business unit joining the NetWare Systems Group, the Desktop Systems Group and the Interoperability Systems Group, which Rekhi ran until last week. Other issues remain to be resolved pending Rekhi taking over day-to-day operations of USG.

CADENCE TO ACQUIRE COMDISCO SYSTEMS UNIT FOR NEW SHARES

Times are so hard in the mainframe leasing business that Comdisco Inc is having to drop everything not vital to its core businesses - including one or two operations few even knew it had. It is selling Comdisco Systems Inc, which provides electronic design systems for signal processing and communications applications to Cadence Design Systems Inc on undisclosed terms, although the settlement will be in new Cadence shares. Cadence said the deal reflects its belief that to grow the electronic design automation market, it has to provide untapped customers with new technology and abilities.

WIND RIVER HOPES TO WIN BIG FROM MICROSOFT AT WORK

Embedded real-time operating software specialist Wind River Systems Inc, Alameda, California reckons that Microsoft Corp's plans to introduce the Microsoft At Work architecture for integrating and controlling mundane office equipment presents new market opportunities for embedded systems products - such as its own VxWorks. It reckons that if Microsoft is successful, it will stimulate demand for embedded operating systems and development tools by increasing demand for intelligent office products, and that VxWorks will find a role in helping manufacturers bring new embedded applications to market quickly and cheaply. VxWorks adheres to industry standards such as Posix and ANSI C, and if the Microsoft architecture becomes a de facto standard for office products, Wind River says it will provide full interoperability. It notes that over 2,000 applications, ranging from the New York City Traffic Light Control System to Hewlett-Packard Co's X terminals, have been created and deployed using VxWorks.

MOVIE CHIEF JUMPS SHIP FOR GAMES START-UP CRYSTAL

The promise of multimedia is suddenly so exciting that movie people are beginning to forsake the back lots and jump ship for multimedia start-ups. Strauss Zelnick, president and chief operating officer of News Corp's Twentieth Century Fox Film unit, quit to join Crystal Dynamics Inc, a start-up software company, as president and chief executive. He exchanges 1,200 employees and a division with revenue close to \$2,000m for a band of 28 programmers and video game creators at a company in Palo Alto that has yet to introduce a product. Crystal Dynamics, one year old, and backed by established Silicon Valley venture capitalists, is devising games for the next generation 32-bit systems.

MARKET ROUNDUP

Locus Computing Corp's latest Merge 3.1 release, which allows MS-DOS and Windows applications to run under Unix, is now available from **Unix System Labs** for Unix SVR4.2.

Menlo Park, California-based, **Informix Software Inc's** relational database products will support Apple Computer Inc's AU/X 3.0.1 by the end of the year.

Sybase Inc says it'll have System 10 products running on **Santa Cruz Operation Unix** by the first quarter of next year.

Alpha Microsystems Inc, Santa Ana, California, is setting up a **Veterinary Systems Operation**, its first vertical market initiative in the US, having acquired one of its dealers **CV Systems Inc** who pioneered the niche effort. Alpha Microsystems will be moving the software to both its 486-based SCO Unix systems as well as its single-user 486 MS-DOS line.

Thomson-CSF Information Technology Group has sold its controlling interest in object-oriented CASE frameworks developer **Atherton Technology Inc**, Sunnyvale, California, to key employees Channler Drawdy and Jim Conlon on undisclosed terms. Venture capitalist **Kleiner Perkins, The Mayfield Fund, Menlo Ventures** and **Morgan Stanley** hold minority positions. More than \$30m has been invested in Atherton over the last five years.

Sunnyvale, California-based, **Woodside Technologies Inc** is offering resellers aggressive discounts and cooperative marketing incentives to bundle its Fortress security software with their systems. Fortress reportedly offers protection against Trojan horses, worms, viruses, file tampering and weak passwords and currently runs on Sun/Open Look machines. It is being ported to Sun-with-Motif, IBM and HP hardware.

Highland Digital, the Palo Alto, California-based **Sun Microsystems Inc** reseller, has picked up an exclusive on Apogee-C and Apogee-Fortran compilers for Sparc boxes. Apogee Inc is trying to get the products national. They are optimised for Sun's new SparcStation 10s, reportedly helping applications use their super-scalar features.

Puzzle Systems Corp, Morgan Hill, California, has introduced **SoftNet Client**, a Novell NetWare emulation package for Unix. The software allows **Hewlett-Packard, Silicon Graphics** and **Sun Sparc** workstations to act as NetWare clients to Intel-based NetWare servers. SCO Unix support will follow in March. SoftNet is priced at from at \$400. +1 408 779 9909.

Riverside, New Jersey-based **MS Utilities** has released its custom menu builder and utility tool kit **MultiMenu** for AIX, SunOS and 80386/80486 Unix System V platforms, priced from \$300 to \$600. It says it can access an application or system administration and utility functions in a keystroke. It is being distributed by UniDirect. +1 609 764-1923

San Jose, California-based **GVI** has introduced **X/TeleScreen**, a Motif-based tool for sharing applications across X Windows systems without modifying the application: the tool is being sold by **National Information Systems Inc**, also in San Jose - licences start from \$1,000. +1 408 737 1904.

CenterLine Software Inc and **Visual Edge Software Ltd** have introduced **ViewCenter** for Motif on Sun and HP workstations. Based on Visual Edge's UIM/X 2.5 graphical user interface builder and integrated with CenterLine's CodeCenter and ObjectCenter programming system, ViewCenter enables developers to create, modify, test, and generate code for the user interface portion of their applications. ViewCenter supports Motif 1.2 and generates C++ code and class object components which can be used to create objects which comply with the Object Management Group's CORBA specification. Prices start at \$3,000. CenterLine +1 617 498 3000. Visual Edge +1 408 973 7823.

With a port of its host-based development tools to **SunSoft Inc's** Solaris 2 already under its belt, Alameda, California-based **Wind River Systems Inc** has added a version of its VxWorks real-time embedded operating system for Sparcstation LX board-based target systems. +1 510 748 4100.

LSI Logic Corp has introduced what it claims is the fastest single-chip X terminal building block for OEM system developers at 150,000 Xstones. The LR33120 GraphX CPU uses a CW33000 **Mips Technologies Inc** core will come in 25Mhz and 33Mhz configurations initially, priced at \$70 and \$85 respectively in quantities of 10,000-up. They will sample in October, with general delivery slated for January next year. 40Mhz versions will follow. +1 408 954 4625.

IBM software testing outfit **Compuware Inc**, Detroit, Michigan, has completed its acquisition of 1992 start-up **EcoSystems Inc**, Cupertino, California, developer of Oracle Corp-based client/server Unix management framework and toolset (UX No 441). Compuware will issue 740,000 of its common shares to EcoSystem shareholders. Version 2.0 of the company's EcoTools software is due to ship for Oracle-based Unix systems this summer - support for Sybase and Informix systems will follow by the end of the year. Compuware's European headquarters is in Dunstable, Bedfordshire.

Menlo Park, California-based **Siren Software Corp** has introduced the Motif-based **Siren Editor**, a text editor for a range of Unix platforms which includes multi-file window management, the ability to edit files of any length, a shell facility, autosave and backup: single user prices start at \$250. +1 415 322 0600.

Computervision Corp, Bedford, Massachusetts, has introduced version 5 release 4 of its CADDs mechanical design software for DEC, HP and Sun workstations: with 14 new modules prices start at \$2,500. +1 508 468 1155.

Hewlett-Packard Co has signed for Minneapolis-based **Netstor Inc's** storage software, which will be integrated with the OmniBack component of HP's OpenView system management solutions. +1 612 890 9367.

Arrow Electronics Commercial Systems Group will be distributing **Computer Associates' CA-Unicenter**, its mainframe-style systems management tool, under a newly inked agreement.

NetStor Inc will be OEMing Software Moguls' SM-arch network backup and retrieval software as part of its HSM family of hierarchical on-line mass-storage software solutions.

Software Partners/32 Inc, Atlanta, Georgia, has new versions of its Thruway remote device access and Thrunet network backup software that works in distributed Unix and OpenVMS environments: prices go from \$5,000 to \$14,000 and from \$500 to \$7,000 respectively. +1 617 225 2950.

Viewlogic Systems Inc has kicked off a programme to get third party tools up on its CAD Framework **OpenFrame**, an electronic design framework which runs on Unix, Windows and Windows NT: the Marlborough, Massachusetts-based firm says 29 vendors have joined the scheme so far, some are expected to announce OEM deal for parts of OpenFrame.

MasPar Corp has won a \$20m filip for its massively parallel systems from the **US Defense Advanced Research Projects Agency**, which has signed a two-year contract to provide its researchers with advance access to new MasPar technologies.

California-based **Red Brick Systems Inc** has released version 2.0 of its Red Brick Warehouse system on IBM, HP and Sequent machines: prices from \$23,000 to \$300,000. +1 408 354 7214

Cimage International sold more document management systems worldwide than any other supplier in 1992, according to market research company Dataquest. It also owns a 50% market share of the UK market.

Tektronix Inc has some new **Mips Technologies Inc** R3000-based X terminals up its sleeve that go to 158,000 Xstones performance: the XP350 series will carry price tags similar to existing Tektronix lines.

SunSoft Inc has introduced a worldwide network of training centres for Solaris and Interactive Unix. Fifteen Authorised Education Centers have been set up in the US, Singapore, Germany, UK, France, India, New Zealand, Mexico and Australia to conduct technical seminars for independent software vendors and users.

Los Altos, California-based **NetLabs Inc** has introduced **NetLabs/AssetManager**, a network management system for accounting, asset management, auditing and inventory applications. Its available now for IBM NetView/6000, Hewlett-Packard Co OpenView, and SunNet Manager and is priced at \$4,000 per user.

The **IBM/Apple Kaleda Labs** venture has debuted its ScriptX cross platform multimedia language, which runs titles created in the language unmodified on Apple Macs and Windows-based PCs: final versions are expected in the first quarter of next year, with OS/2 implementation to follow.

Remedy Corp has signed up UK distributor **MicroMuse Ltd**, London, to market and support Remedy's help-desk software **Action Request System** in the UK. +44 81 875 9500.

UK VENDORS GET TOGETHER TO WORK ON TRADE SHOWS AND USER GROUPS

With UK trade shows increasingly missing their targets, and user groups on the decline, vendors over here are having to find different ways to get their message across to the punters. EMAP Exhibitions, recently under fire for its failure to generate sufficient public interest for events such as the Solutions for Workstations Show in London and Birmingham's IBM '93 Show, is not alone in failing to satisfy its exhibitors: last year Reed Exhibitions gave up on its open systems event, and even high-flyers Blenheim cut the conference it had planned to run beside the Software Development Show. Now a group of vendors has got together to do its own research and marketing to find out what sort of show would attract IT users. Named the Ascot Group after the location of their first meeting, the members include Sun Microsystems, IBM, Silicon Graphics, Apple Computer, Applix, SCO and WordPerfect. It's not yet clear whether the group plans to put on its own show as a result of the research. Meanwhile, another group, the Visual Forum - the Vendor Independent Software Users Associates - is to launch next week as an independent user group for both software vendors and users. Members are thought to include Oracle Corp, Softlab, SAS, Data General, Performance Software and Neuron Data. Ian Hugo (founder of the UK Computer Measurement Group) and Robin Bloor of consultant ButlerBloor are behind the group, which will also have input from X/Open and the Object Management Group. It will tackle some of the technical issues of software integration and interoperability that user groups, such as the UK's UniForum user group, have not generally addressed. Roger Frampton, who resigned his position as director of UniForum a few weeks back, has now turned up as a director of Sun software expert MicroMuse Ltd.

HITACHI PRECISION RISC MAINFRAME "WILL RUN MVS"

Hitachi Ltd has been talking for a couple of years now about the "mainframe" it is developing around Hewlett-Packard Co's Precision Architecture RISC, and the assumption up to now has been that the machine would simply be a big Unix box that would offer performance in the mainframe class. Not so, it appears: reports from Tokyo suggest that the company's plans are much more ambitious and that it is thinking in terms of a parallel machine that will be compatible with its existing mainframes, and able to run applications developed for both its own VOS 3 and IBM Corp's MVS operating systems. Introduction is expected early next year.

IBM Corp's Programming Systems division has released a new version of its RS/6000-based Configuration Management Version Control system, a software development tool for problem tracking, version control and configuration management on HP and Sun platforms. CMVC Version 2.1 has a configurable defect and feature tracking process, graphical browsers, configurable fields and now now offers over 100 user exits. It is priced at from \$2,500 per user. +1 914 642 5473

Spry Inc, Seattle, Washington, is shipping an implementation of SunSoft's ONC+ transport independent Remote Procedure Call library for Microsoft Windows in its Air for Windows TCP/IP package. +1 206 447 0300

And Wollongong Group Inc has ported its PathWay Messaging e-mail system to SunSoft's Interactive Unix 3.0: server versions are \$9,500, client copies are \$200. + 1 415 962 7156

IBM "TO CUT 50,000 THIS YEAR"

IBM has been in a state of phony war up to now because although it was showing enormous losses, volume had not seriously begun to decline, even though almost all observers agree that annual turnover of over \$60,000m is totally unsustainable by IBM's main businesses. In a new round of cuts, the *Wall Street Journal* reckons that the number to leave IBM this year will be almost 50,000, and that this will cost the company a charge of about \$2,000m. The latest cuts will shrink IBM's headcount to about 250,000, down from a 1985 peak of 405,000.

BULL TO SHED ANOTHER 6,500 JOBS BY THE END OF 1994

Compagnie des Machines Bull SA was last week putting before its works council a plan to cut some 6,500 jobs from the group's worldwide workforce of some 35,200, including the 3,000 reduction already announced for this year. The job reductions will be spread over 1993 and 1994. Bull's personnel director, Herve Hannebique, said that the company has the prospect of achieving breakeven at the group net level in 1995. "These reductions form part of the acceleration of our effort to reduce costs, which has in perspective a group net breakeven in 1995," Hannebique said, adding that costs will also be shaved in property, purchasing and information systems. The government wants Bull to come up with credible plans to stem losses as a prelude to its recapitalisation.

APPLE SPELLS OUT THE DAMAGE: 2,500 JOBS ARE TO GO WORLDWIDE

The boom fell at Apple Computer Inc last week as the company confirmed that it will lay off about 2,500 workers as part of a broad restructuring to take effect over the next 12 months. Most of the layoffs will be completed this month, including 30 at the plant in Cork, Eire, which inter alia makes the PowerBooks for the world; the cuts in Ireland are relatively low because the company notes that manufacturing is set to play a key role in increasing market share. What will have to be very significant restructuring costs will be accounted for in the company's third quarter ended June 25. The cut represents about 15.6% of the total workforce of about 16,000. Apple described the cuts as "a broad re-engineering of the company to accelerate revenue, unit and earnings growth." It said it will release additional details "including organisational changes designed to allow the company to compete more effectively," soon.

...AND NOW THOMSON-CSF SAYS 2,000 PEOPLE ARE SURPLUS TO REQUIREMENTS

Compagnie des Machines Bull SA is not the only French major with more staff than current circumstances justify, and French defence and professional electronics company Thomson-CSF SA believes it has 1,500 to 2,000 excess workers and is studying with its unions ways to scale back. The company categorically denied reports that it may cut its workforce by 4,000 and said Thomson-CSF usually found ways to avoid redundancies. It employed 42,357 at end-1992.

MASHEY ON RISC: WHERE IT'S GOING AND WHO'LL BE THERE

By William Fellows

John Mashey, Mips Technologies Inc's ebullient director of systems development was in London recently to describe some of the company's latest microprocessor technologies (UX No 440), and to shed some light on current semiconductor industry trends.

Singing the praises of the Mips RISC, Mashey claims all other RISCs are dominated by one vendor, whilst the Mips CPU is available from six. Last year 300,000 Mips chips shipped, 100,000 in systems, "from workstations to folks starting to get into Microsoft Corp Windows NT personal computers like Acer Group Inc, and there will be other ones later." He claims Mips has the number one RISC slot in Japan, where sales of Mips, SGI, Sony Corp and NEC-based R Series systems taken together are more than the Sun Microsystems Inc Sparc or Hewlett-Packard Co PA-RISC stuff. The other 200,000 parts are working in embedded control, such as printers. These chips are important because they ship for many years in very predictable flows, they don't always need the newest technology, so they help pay the very high costs of building fabrication plants over the years. In effect the fabricators amortise the cost of producing new CPUs with something that doesn't have to be the newest thing every year and a half." Canon Inc's Colour Laser Copier uses the chip, as does the Oki Electric Co \$800 laser printer which is selling at 100,000 a month. Mashey expects "over one million" Mips chips to go into this embedded sector next year, which also includes things like X terminals, communications boards and telephone switches. Mashey also thinks Mips could be in with a shout if and when HP moves its hugely successful Laser Jet line of printers to a new CPU architecture. HP currently uses the Intel Corp i960 RISC in the printers, and if, as Mashey believes, there is no new iteration of that part planned by Intel, then he believes the Mips and Advanced Micro Devices Inc 29000 RISCs are likely to slug it out for the business.

Elves

Unlike some other industry commentators, Mashey argues that most of the current mainstream RISC CPUs will survive in to the next millenium, although he has some specific views on their current technology standings. Digital Equipment Corp's Alpha AXP he describes as "strange CMOS, almost bipolar." The HP PA RISC has no fast cache memory on the chip - the issue for HP being that "it runs a lot of wire at very high speeds on the board, which leads to a lot of manufacturing issues. Sometimes they get hand built by specially-trained elves," he quips.

Moreover, it is not enough to know how fast the various architectures are, "to look at cost trends you have to look at how much hardware there is. Another way to do that is to look at the size of the chip, and how many layers of metal it has. More layers usually means more problems. However more layers stacked on top of each other means you can make the chip smaller, which means you get more on a wafer." The IBM Corp/Motorola Inc PowerPC has four layers. HP is a three-layer unit, Alpha has three layers, Texas Instruments Inc's SuperSparc has three and Mips two. Two-layer implementations are easy to make and the Mips part will soon get down to below \$200 per chip, says Mashey. On a chip there are layers of insulator and layers of metal which connect up the transistors. The reason it is interesting, argues Mashey, is that is in the layers and layering process that most defects occur. Layers of metal laid down on top of each other are very susceptible to breaking. If the chip gets too "hilly" in the layering process, the yield goes down. Mashey cites Alpa AXP, which he says is difficult to make because it uses a "funky version of the process that uses big metal." Recently introduced planarisation techniques help reduce layering difficulties, but if you go to the extremes "then it is still an issue," says Mashey.

Indeed, the problem DEC has had in finding partners willing to make the Alpha was due to an "unusual flavour of CMOS," it used. DEC asked "every single semiconductor manufacturer that as far as we could tell could possibly make Alphas to do so, and after 18 months it only got Mitsubishi to sign up." Alpha is not a fundamentally different architecture, says Mashey, the problem is that "you put the chips in a microwave oven and turn all the knobs and dials up full. Fabricators don't like re-calibrating all their systems to do it. They'd rather do something closer to their mainline processes, because that's how they get experience and yields."

PowerPC is small, but has lots of layers. The current PowerPC 601 is only made by IBM in a fab in Burlington, Vermont. It is very difficult to get data on PowerPC, says Mashey, because it is a very aggressive, very proprietary effort. It is difficult to get a handle on what they cost to build. IBM is working with Motorola to get production of the part transferred into more high-volume, low-cost processes. "We suspect this is expensive, but we don't know," says Mashey, "although sizes and metal give you pretty good guesses." PowerPC emphasises floating point performance over integer and is a "reasonable architecture," according to Mashey.

Biggest

Mashey describes Pentium as the "biggest microprocessor I've ever seen," and says that's not surprising given the difficulty Intel has making its chips faster and faster, but still compatible with the iAPX-86 line. "Pentium is good, in terms of the constraints and resources that Intel had," he says "the question is, if you are Intel, how much profit do you give up if you build Pentiums rather than taking the 6" wafer and making 80486s?" It costs \$8,000 negative dollars per wafer, according to Mashey. The reason is the size. "On the wafer you get a lesser amount of bigger chips and you get less possible chips that work. Pentium is 3.6 times bigger than a 80486DX/2 in the same technology - ignoring the three or four extra steps required to do the bipolar transistors. Pentium has 17 or 18 masks rather than the 80486's 13 or 14. With the bigger chip there is more space around the edge of the wafer, and the holes are bigger for a bigger chip. Right now on a 6" wafer using 0.8 micron transistors, Intel gets 180 80486DX/2s. 47 Pentiums are possible." The question is what fraction of them work? Mashey says the effect is "not linear, but exponential. Bigger chips are much less likely to work, because there is a bigger chance that they'll run into problems. 80 of the 180 80486DX/2s on a wafer work. About 0.5 Pentiums work, we think. Maybe it is one. What happens is that when you start to make chips, the defect rate is fairly high. As you get used to doing them, and the volume increases, so the defect rate comes down, until it levels out. There's a lot more volume in the 80486s and that's why Intel is already at almost 50% yield on the wafer. The best we can imagine Intel getting on the same overall defect rate curve over time is maybe four good Pentiums." The point is that Intel can ship and sell every 80486 that it makes, so any wafer that it uses to build Pentiums takes away from 80486 sales. "Suppose Intel ships 100,000 Pentiums in the next twelve months - this is \$800m of profit that is forgone on the 80486. Intel knows it is numbers like this." Even when Intel goes to 8" wafers and 0.6 micron technology, "the same relative numbers will apply," says Mashey.

Rule of thumb

Meanwhile, Mips and DEC have already paid the development price of going to 64-bit - a cost others will have to bear in future. Mips has earned itself more die space for things like multiprocessor support. Other vendors have used space derived from shrinking transistor and process sizes for things like more floating point performance. The next round of microprocessor developments will see all the architectures get more transistors per chip and standard CPUs drop in price, Mashey expects. "Some will have to integrate some of the things we've already done. We'll put more things into floating point," he says. He uses the example of SuperSparc to point out some of the pitfalls of trying to move too far too fast. It is big, three-layer, BiCMOS and aggressive in many directions at once. "There's a rule of thumb I like to use which says the probability of success for a project is grossly one over two to the number of risk factors. In other words if you want a good chance of success you'd better just take one risk and that's about it."

The physical universe that is against chip developers - Mashey on RISC, continued from previous page

Mashey is confident all the Mips R series projects now on the go, such as TFP, T5 Terminator, Terminator II and VRX (UX No 440), are do-able with semiconductor processes available today. There are a number of problems that stand in the way, however. One is the time needed to debug, find and fix problems. You can have produced thousands of good chips and still find a horrible bug, he says. "It's not as if the chip can't add and subtract on the first try - if it can't do that then you shoot all the engineers." Mashey has as weird a collection of examples of circumstances that have led to bugs as can be imagined - and this can happen even after all kinds of diagnostics, fine tuning and performance benchmarks have been run - but basically the chip forgets what it is doing. The problem is that bugs are very hard to replicate and therefore eliminate. Another problem is that the increasing speed and parallelisation in chip technology makes it more and more difficult to be able to get the CPU to take an interrupt, stop and go off and do something else, without scrambling its "brain." In Mashey's words, it is like brakes on a car, "the faster the car goes, the harder it is to stop in a straight line without killing people." Speculative execution processors, like Mips' next-generation T5 Terminator, need to have a clearer exception handling mechanism than any chips have had in the past. The T5, for example, will be able to process stuff that is up to four branches ahead; Mashey says Mips has a mechanism that will handle exceptions as well as undoing all the speculative processing. In Mips' case, the technology "is more aggressive, but not something fundamentally different," he argues. "This stuff gives you grey hair - I'm only 20 years old really - don't get your children to do this kind of stuff, it's bad for you," he warns.

Although Mips has done some pioneering work on mainstream 64-bit microprocessor technology, it remains wary of the latest BiCMOS techniques used in architectures like the TI SuperSparc and Intel Pentium. BiCMOS has two kinds of transistors, bipolar and complementary metal oxide semiconductor. Conventional CMOS transistors switch data by recording a state that is either off or on - 0 or 1. Bipolar transistors can record both states at the same time. "We look at BiCMOS every time and reject it," says Mashey. The problem is that the reduction in size of BiCMOS transistors lags roughly six months to a year behind the improvements made to the size of CMOS transistors, he explains. The size of the transistor is the driving force on what the clock frequency (MHz) is. "There are uses for it [BiCMOS]," says Mashey, "we just find it gets to be expensive and difficult to make and difficult to shrink." SuperSparc and Pentium, he observes, have both encountered well-documented difficulties getting up to speed. "As a technology BiCMOS is okay, it just doesn't seem to work as well as people think." Gallium Arsenide? "Well the joke is that it is the technology of the future - and always will be." GaAs is difficult to make and is very brittle, although faster, "the problem is you can't get enough transistors on one chip, you end up have to connect the chips with lots of wires - and the wires are slow. Indeed, the speed of light "is a serious problem at this point," says Mashey, "and there's not much we can do about that? The problem is that a nanosecond in a vacuum is shorter than a nanosecond in a wire. "And people care about single nanoseconds." On a silicon CPU, "people worry about whether the clock ticks the same at different corners of the chip. Imagine if you are building a Cray-type machine with thousands of GaAs chips and lots of wires - the physical universe is against you."

X-ray

As far as the other performance limitations of microprocessor technology go, Mashey says the current rate of increase in CPU performance is unsustainable in the mid-term, and will drop over time. Once semiconductor technology reaches 500MHz and 0.1 micron parameters, around 1997-98, he expects there to be a slow-down because transistors will be getting smaller than the wavelength of visible light. The industry will have to digest this and a host of other infrastructure changes: "it'll be traumatic and will slow stuff down," says Mashey. The industry will have to move to using X-ray or electron beam switching technology, he believes. And at the same time as increases in individual CPU performance drop from the 50% per year today to 20% or 30%, something else will happen, says Mashey. At the moment, decreasing transistor size means that an 0.8 micron CPU re-done in 0.4 micron technology will fit into a space on quarter of the size it was. For the moment, things like extra cache, two floating point or integer units, speculative execution or other more complicated devices can usefully take up some of the space gained. However, can that whole thing be taken and shrunk again onto a chip a quarter of the size, in 0.1 micron technology, for example. "Can we get another round of more complicated technology in?" asks Mashey. "I don't think so. We'll start seeing things several CPUs per chip." The problem is that the wires used to link the transistors aren't shrinking as fast as the transistors themselves. There are two kinds of limit on CPU speed. One is how fast the transistors can switch - faster as they get smaller - and the speed of receiver light, the resistance capacitance for light on the wires. On a master chip with long wires, that is where all the delays will come from, argues Mashey. He says firms will put CPUs together on a chip and keep the wire distances small by patching short gaps between them, or even between the different parts of the individual CPUs. By keeping the wire lengths as short as possible, the inherent slowness of the wires themselves won't hurt too much. However what you will not be able to do in 500MHz, 0.1 micron technology is to use wires the size of those in a modern chip. "The wires will stop you cold. And at the moment, we can't figure out how to make the long wires go faster."

BULL EXPLAINS WHY ITS INTEGRATED SYSTEM DEVELOPMENT IS DIFFERENT FROM AD/CYCLE

Compagnie des Machines Bull SA reckons that its ISD Integrated System Development software engineering system - which has just won the backing of four French software majors, is the "last major component of the Distributed Computing Model," a PCTE-based integrated software engineering environment called Integrated System Development. The first version of Integrated System Development comprises a repository based on PCTE Portable Common Tools Environment technology from GIE Emeraude, Louveciennes, and the Neutral Information Model, which in turn is based largely on the Exchange repository interfacing technology from Software One Ltd, of Marlow in the UK. It also includes a control integration system based on IBM Corp's AIX Software Development Environment Workbench/6000, which is derived from Hewlett-Packard Co's SoftBench - Bull has licensed two sets of IBM products for it - the IBM SDE Workbench/6000 and IBM AIX SDE Integrator, and IBM Configuration Management and Version Control products. Integrated System Development is now available for pilot and beta test; another update should be ready by the end of the year, said Steve Kiely, Bull's vice-president of application services. It will operate on Bull's DPX/20 workstations and servers, which are of course based on IBM's Power RISC architecture and AIX operating system. It will also be available for Bull's GCOS and IBM MVS systems. The PCTE repository and the Neutral Information Model are the key components and enable different tools to share data across distributed environments. To achieve interoperability, information is fed into the PCTE repository via Neutral Information Model, which captures data, tools and even parts of applications in a neutral format, irrespective of design, methodology or programming language. An exchange data interface provides a bridge between the tool and the information model to do this. Other features include a OSF/Motif and Microsoft Corp Windows graphical user interface.

Primary analysis tools

Among the primary analysis tools that the first version supports are products from Bachman Information Systems Inc, KnowledgeWare Inc's Information Workbench and Information Engineering Workbench, and Intersolv Inc Excelerator, he said. To start small, a client can spend approximately \$15,000 for a "client-server Cobol application development environment, which includes compiler, development and debugging tools and which can be grown to include a repository," Kiely said. A beginner's repository plus two tools would cost approximately \$50,000, which includes a workstation and the software; then the user would need between one to four weeks of consulting, he added. Kiely gave an example of the problem Bull's Integrated System Development is intended to solve. Using an Informix-based system, a user is trying to build a manufacturing information system, using pieces from three different applications: a Business Objects pricing package running on a personal computer; a customer file on an Excelerator accounting system on a VAX; and a parts inventory system running on Oracle. "ISD, using the export facility of Oracle, for example, exports the parts application to the repository, translating into a neutral format while maintaining the entities and relationships. Then the Neutral Information Model maintains the relationship between the new application and the Oracle application," Kiely said. Kiely insisted that Bull is not trying to do what IBM did not succeed in doing with AD/Cycle. "There are two significant differences between ISD and AD/Cycle. IBM took a prescriptive approach, telling the industry what it had to do in order to comply, so vendors had to spend lots of money rebuilding their tools to participate. ISD is a 'hands-off' approach with regard to the tools; they stay exactly as they are. "Secondly, AD/Cycle was monolithic, it was overbearing. With ISD, in contrast, it takes us about one month on average, at worst three months, to map in and out of the model for any tool," Kiely said.

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Burlington, Massachusetts-based **Software Pundits Inc** in a co-development with **Lotus Development Corp** has introduced Link, Embed and Launch-to-edit (LEL) tool, which lets users create compound documents with data from different Unix applications. The SP toolkit will also be bundled with the upcoming release of Lotus Notes 3.0 for SunSoft Inc Solaris, Santa Cruz Operation Inc Open Desktop and IBM AIX. Software Pundits +1 617 229 6655.

Tools USA '93 is set for August 2-6 at the University of California, Santa Barbara. The programme cover indicates it'll be covering a lot of of juicy object-oriented topics.

Beaverton, Oregon-based **Tektronix Inc** seems to have been in a state of permanent revolution for a decade now, and in yet further efforts to cut back on unprofitable operations, says it will reduce its work-force by another 800 over the next 12 to 18 months from its 9,840 total. Tektronix has cut about 1,500 jobs over 12 months and 4,200 over three years.

The Groupware '93 Conference & Exhibition is scheduled for August 9-13 at the San Jose Convention Center in California. It looks like a lot of brand names from top companies will be there.

Tandem is going to support C-TRON, one of the variants of the Japanese operating system, on its Non-Stop line: it'll sell the stuff to **Nippon Telegraph & Telephone** starting in September when it begins to ship.

The ASK Group has hired Apple's director of development tools as president of the development tool product business unit it started in March to develop and market ASK application development tools worldwide.

Interleaf Inc, Waltham, Massachusetts, has bought up privately-held standard general markup language specialist **Avalanche Development Co**, Boulder, Colorado, for \$5.5m cash.

Simpact Associates Inc, San Diego, California, is offering Freeway communications servers that connect local area networks running TCP/IP up to wide area networks: the 6 to 64 port boxes use Motorola 68030 processors and start at \$12,500. +1 619 565 1865

Continuing its expansionist policy, now primarily as a systems integration and services company, **Control Data Systems Inc** is to acquire \$50m Canadian integration outfit, **Antares Electronics Co**, Ottawa.

UK firm, **C2C Systems Ltd**, Henley-on-Thames, Oxfordshire, is to market Waltham, Massachusetts-based **JetForm Corp's** e-mail-enabled forms automation software in the UK. +1 617 647 7700.

San Jose, California-based **Clarify Corp's** customer service management system now supports the Oracle database and HP 9000 Unix systems. +1 408 428 2000.

Apparently users of **Sun Microsystems Inc's** long-awaited X terminal will be able to upgrade the thing to a workstation with the addition of a processor board.

SGS-Thomson's Inmos International is gearing up to develop a new range of transputers that'll be targeted at database servers, workstations, portable systems, telecommunications, multimedia and Asynchronous Transfer Mode devices. The firm is to hire around 150 staff in the UK, France and Italy for its Chameleon programme, first fruit of which will be a base processor with 10 million transistors due by the end of 1995, followed by transputers tailored for specific vertical markets.

Micro Focus Plc has moved into acquisition mode and its latest purchase is the sole distributor of its products in Spain - **Intelligent Software Solutions SA**. The Newbury, Berkshire Coboller says it is paying 150,000 new shares, currently worth £3.1m.

Sun Microsystems Inc has joined the EC for Environmentally Correct movement and says that two of its subsidiaries, **Sun Microsystems Computer Corp.** and **SunPics**, are currently shipping energy-efficient products that meet the Environmental Protection Agency's guidelines for energy savings, as specified in the Energy Star Programme: the products, including the low-cost SparcClassic workstation and the NeWSprinter CL+ ink jet printer, are the first systems from Sun to qualify for the Energy Star logo.

Novell Inc indicated the new **Unix Systems Group** - see front page - would not affect the current staffing or organisational structure of Unix System Labs. It said USL's Summit facility in New Jersey would be one of Novell's three major US locations and its principal operation on the East Coast.

However, **USL Europe**, currently in Ealing, West London, says it plans to move into **Novell UK's** offices in Bracknell, Berkshire: USL's 40 staff will be offered relocation terms. The Unix Systems Group in Europe is expected to provide around one third of the unit's income.

DEC is expected to turn up with a OSF/1 maintenance release - version 1.3 - in the next month or so. The next OSF release, code named Sterling, is due at the end of this year or beginning of 1994 and will include C2 security, support for Motif 1.2, Unix SVR4 streams, token ring, Posix 1003.2 commands and utilities, XPG4 and the Polycentre advanced file system. Symmetric multiprocessing support will finally arrive in the form of Gold, a mid-1994 offering, including 64-bit NFS support and C2 network security. DEC wants its Ultrix customers to move up to OSF/1 but says new Ultrix releases will continue every six months or so, the next being Ultrix 4.4, a full VAX and RISC release with Motif 1.2.

Those critical of **Microsoft Corp** and its delivery schedule are saying that the best platform for running Windows NT right now is a 35mm slide projector.

Santa Clara, California-based **Veritas Corp** is delivering an early version of its VxFS 2.0 file system storage and management package for Unix SVR4.2 MP to OEMs, including Unix System Labs: VxFS is already incorporated into existing Unix SVR4 releases. +1 408 727 1222.

Stratus Computer Inc is now shipping version 2.2 of its FTX Unix SVR4 implementation, which now includes support for symmetric multiprocessing: FTX 2.1 could only support uniprocessors. Stratus is also set to market new multimedia software built upon software it has licensed from Vienna, Virginia-based **Phone Base Systems Inc**. Stratus says the technology will allow its telecoms customers to deliver new telephone-based information services, voice and fax messaging and personal call management.

The third **European IT Forum 1993** is set for Venice September 22-24.

There is so much going on at the moment that even some company executives themselves do not seem to be able to remember who they met, where, when and what for. According to our sources, **IBM Corp**, **Digital Equipment Corp**, **Hewlett-Packard Co** and **ICL plc** - most probably others too - were due to meet the week before last to try and work out their collective response to the most recent changes in the industry, including Novell Inc's formation of a Unix Systems Group - see front page. Officials claim the said meeting either never took place or are not prepared to comment on what must have been the most delicate of matters - one of the topics of discussion was their planned future relationships with - or not as the case maybe - organisations they've variously sworn to uphold, namely **Unix International**, **Open Software Foundation** and **X/Open Co**.

While Louis Gerstner wrestles with the problem of how to deal with his bloated sales force, and the UK subsidiary, with its 30 new vertical market and product business groups, is cast in the role of guinea pig for the whole company, a few more hints have emerged of **IBM Corp's** parallel mainframe plans, and there are suggestions that by next year - some see the thing being announced this autumn, **IBM** will announce a parallel data base processor built of ES/9000 microprocessors, under the control of the Posix-compliant release of MVS.

Belper, Derbyshire-based software and services company **Vistec Group Plc** has seen growth across all areas of its business, particularly the Unix distribution division, **Sphinx Level V**. But it is still looking for acquisitions to tack on the back of existing operations to boost growth further: unfortunately though, according to chairman Bob Morton, "there's nothing around worth having".

Word has it that **IBM** will announce a new revision of AIX on July 13 along with the \$11,900 Rios-based Powerstation 34H, said to be fitted with a 41.6MHz processor worth 83 Specfp92 and 40.2 Specint92. The new AIX reportedly offers faster performance with enhanced systems management tools.

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TANDEM DEBUTS MASSIVELY PARALLEL HIMALAYA SYSTEMS

RUNNING GUARDIAN OR UNIX ON NONSTOP CHORUS MICROKERNEL

Fault-tolerant manufacturer, Tandem Computers Inc, Cupertino, California, will this week unveil a new stage of development in the process of reconciling its proprietary Guardian/Cyclone and NonStop-UX/Integrity Unix lines. The company plans a new line of Mips Technologies Inc RISC-based systems, including a 4,000 processor monster, that will run Guardian or NonStop-UX as personalities on top of its implementation of the Chorus Systemes SA microkernel in its NonStop Kernel. The new systems will support existing proprietary and Unix applications, and the firm is also working with Unix System Labs to get a NonStop version of the Tuxedo on-line transaction processing monitor up on the microkernel environment. Tandem's new NonStop Himalaya range are based upon Mips' R3000 and the latest R4400 RISC CPU. The £20,000 Himalaya K100 is an entry level server designed for LAN, office and deskside environments, the company says. It comes with from 16Mb to 32Mb RAM, up to 32Gb disk, has a 20Mbps I/O bandwidth and is configured with two Motorola Inc 680x0 or Mips R3000 CPUs in each cabinet. The R3000-based K1000 scalable parallel server for high transaction throughput comes with 32Mb to 128Mb RAM, up to 522Gb disk, has an 80Mbps I/O bandwidth and is also configured with two CPUs per cabinet. Tandem says it delivers up to 30 times the performance of the K100. The R4400-based Himalaya K10000 is Tandem's largest ever machine and can be configured with up to 4,000 processors in domains of 224 CPUs using its TorusNet bus technology. It comes with 64Mb to 512Mb RAM and can support over 2,000Gb disk. It offers 320Mbps I/O bandwidth and comes with two CPUs per cabinet. It will deliver more than 2,000 times the performance of the K100, Tandem says. The K100 and K1000 ship in September - the K10000 is due in the fourth quarter. The XPG4-compliant NonStop Kernel is also due in September - a Posix-compliant developers kit arrives in December. OSF Distributed Computing Environment and a microkernel version of Tuxedo will be available by mid-1993.

SILICON GRAPHICS INDY SETS MULTIMEDIA STANDARD

Silicon Graphics Inc last week launched Indy, a \$5,000 - £4,350 - diskless workstation with a colour video camera, IndyCam, that can be mounted on top of the monitor, two-dimensional graphics, and professional-quality audio capabilities (UX No 443). The video camera - which includes an analogue microphone - is to enable people in different parts of an office, or in different parts of the world, to view each other's image while working with their computers. The vanity camera is claimed to use just 4% of the available Ethernet bandwidth, but potential users will need to buy at least two of the things to get any joy from that technology. Video from the detachable camera uses JPEG compression for 400Kbps transmission over Ethernet networks and the Indy accepts NTSC video input and other video sources via one of the video input jacks in the back. The processor is a 100MHz Mips Technologies Inc R4000PC - it comes with from 16Mb RAM to 256Mb RAM, a 15" colour monitor, SCSI 2, Ethernet, two serial, one parallel and one ISDN port and what is described as virtual 24-bit colour graphic capabilities. With 340Mb disk - which can be expanded to 2Gb - the system is around £6,000. Ships begin this quarter. On the software front, there is a new graphical shell called Indigo Magic built on top of the company's Irix Unix SVR4 implementation - effectively a Motif desktop re-jigged to offer better support for video and other multimedia stuff. Indigo Magic will be implemented across SGI's workstation range by the end of the year and runs Windows and Macintosh applications via bundled copies of Insignia SoftPC and Quorum Equal emulators.

AMDAHL, FUJITSU, ICL CEMENT UNIX AGREEMENT - SEEK OTHER MANUFACTURERS TO JOIN THEIR PARTY

Just a few weeks later than expected - the hold-up was at the Japanese end, we understand - Fujitsu Ltd and its Amdahl Corp and ICL plc affiliates last week formally announced a new technology alliance which they say will result in a common Unix operating system environment supported on their respective Unix system products (UX No 438). That includes their (yet-to-be-announced in Amdahl's case) Sparc RISC-based systems plus Amdahl's IBM Corp Systems/390 compatible mainframe. There's little new to what we said back at the end of May, but in view of the recent changes which have seen Unix System Labs subsumed within a new Novell Inc Unix Systems Group, the three are positioning their agreement as a strategic safeguard for the future development of commercial Unix at the high-end of the industry. ICL, for example, expects Novell's efforts to be focused at the low-end and says the depth of the networking company's support for Unix at the high-end "remains to be seen." The three intend to cross-licence value-added elements of their respective Unix offerings - ICL's DRS/NX, Fujitsu's UPX and Amdahl's UTS mainframe Unix - and develop a common set of interfaces that will allow developers to create one version of an application that will run on each of their Unix system products - without modification. First releases of the enhanced Unixes, built around Unix SVR4.2 MP, aren't expected until the end of next year. Fujitsu president, Tadashi Sekizawa, said the aim is to develop the "leading open systems environment for the commercial marketplace." The alliance is a means for the Fujitsu stable to apply much-needed cost reductions - see page three - and start to eliminate duplication of effort. As such, cross licensing arrangements are likely to follow in other technology areas, the development of a common, compatible peripheral range being an obvious target. An important codicil to the announcement - and one not generally released - is that the three now expect to try and broaden their alliance to include other manufacturers.

GARTNER NOTE SAYS COMMON

UNIX KERNEL IS ON AGENDA

Market researcher the Gartner Group, last week advised clients in a Research Note that IBM Corp, Hewlett-Packard Co and Novell Inc have been having separate discussions on moving to a common Unix kernel and claimed that in the process the notion of either IBM or HP or both taking significant equity positions in Unix System Laboratories was broached. IBM and Novell immediately denied the allegation which Gartner distributed to the press as one of its Flash Notes. Gartner's software management strategies research director Scott Winkler, author of the note, is sticking by his guns, however. He now considers they were able to do so because of the deadline used on the Flash Note: "IBM and HP Offer To Buy Into Novell/Unix." It is unlikely any firm offers such as the deadline implies have been made. Winkler says little progress has been by the threesome on moving to a common high-volume Unix microkernel but gives such an accord a high probability rating (in Gartner argot, a 0.7 probability) by 1994. He believes the companies have finally come to terms with such a scheme emotionally in order to defend themselves against Microsoft Corp Windows NT in the marketplace and considers that the bulk of the other Unix players will support a unified operating system. There is some question about whether Novell would have to abandon the Chorus Systemes SA microkernel that USL recently decided to move to and substitute the MACH kernel IBM favours in order to cut a deal. Gartner cautions against viewing any of the current Unix offerings, including AIX, HP-UX, UnixWare, Solaris and SCO Unix, as strategic.

INVESTORS LOOK TO RATIONALISE SPENDING ON UNIX GROUPS

It looks like the the industry is steeling itself to put its money where it wants to be heard rather than paying out left, right and centre for an un-complementary collection of mouthpieces. Investors in groups like Unix International, Open Software Foundation and X/Open Co have been rationalising their own businesses for some time, and the time is surely coming when - in time-honoured tradition - they will turn on some of these beasts they themselves have created. Sponsors, board and committee members of these organisations are understood to be working on a long-term plan that will ultimately rationalise their individual spending and concentrate their collective purse on an unencumbered Unix body (or bodies) which would proceed with a common set of technology goals and a defined relationship with the new owner of Unix, Novell Inc. We understand investors like IBM Corp, Hewlett-Packard Co, ICL plc and others have already walked around one of the first hurdles they'd need to clear - bringing together or replacing the now unnecessarily separate UI and OSF - at one of their regular get-togethers (UX No 444). Betting is that UI and OSF will be asked to become one or lose their sponsorship over the course. X/Open, on the other hand, which owes allegiance to none and effectively owns the blueprint for open systems, will likely survive more or less intact, people say. Don't wait up though, commentators say it'll take a year at best.

XMARK TO REPLACE XSTONE AS STANDARD X-SERVER BENCHMARK RATING

DEC, Hewlett-Packard, IBM, NCD, Sun, DEC and Tektronix have put their weight behind a new measure of X-server performance. Xmark performance ratings, say the companies, who got together at NCD last month to endorse the new rating, will give a more balanced view of overall X-server performance than the usual XStone measurement, which is biased towards text scrolling and terminal emulation. The Xmark rating is a composite benchmark of results from the X Performance Characterisation (XPC) group's X11perf data. The Sun Sparcstation 1 is used as a normalising platform, and has an Xmark rating of 1. Tektronix, with its newly launched 350 Series (see page 7) currently leads the way with an Xmark rating of 2.31, followed by the NCD 19c (1.55), HP700/RX (1.41), Tektronix XP330 (1.40) and DEC VXT2000+ (1.27).

APPLE BITES

The launch date seems to have slipped a bit, but *MacWeek* has been talking for some time about a hot new property in the works at San Jose-based Radius Inc under the code-name SkyLab. The media server for pre-press and multimedia users is said to pack a up to 12 of the company's formidable 50MHz 68040-based Rocket accelerators for the Macintosh, and is tipped to deliver 300 MIPS. It is expected to use a 68030 on the motherboard and to provide two bays with six NuBus 90 slots each, which are designed primarily to take Rockets, but can also take networking and video boards. Radius is not commenting, but the paper hears that it can be launched only from a Macintosh networked to it.

Meanwhile, the turmoil at Apple Computer Inc continued last week when the company cut prices on many of its desktop, portable and server computers, and launched a special rebate programme in the US for its Performa line. Effective immediately, prices on the Macintosh Quadra 950 systems are cut by up to 29% so that an 8Mb model is now \$4,000, Apple Workgroup Server 95 by up to 20% and Powerbook notebooks by 7% to 34% - a 145B 4/40 is now \$1,430 and a 180c 4/160 is now \$4,080; and until September 20 it is offering rebates of \$100 to \$200 on some models of the Performa line.

The gossip columns of *PC Week* and *MacWeek* were full of gossip last week that Apple Computer Inc may have solicited bids for 500,000 low-power 80486 chips, with suggestions being that these could be to go into either PowerBooks or for add-in boards for Quadra and Centris; there is also talk of Apple rallying Dell Computer Corp and Compaq Computer Corp to make machines around the PowerPC RISC.

Meanwhile *PC Week* hears that Apple Computer Inc plans to deliver a dozen new Macs this year - all of them 68040-based, including the low-end Classic, some of which will be faster than the PowerPC-based Mac; and *MacWeek* hears that Apple is sticking to the commitment it made last May to buy 1m PowerPC chips, and that a preproduction working PowerPC Mac prototypes now exist, and that Apple is slowly approaching its goal of matching the performance of a 25MHz 68040 in emulation mode; the machines are said to appear to the average user to be just another high-end Mac.

US sources who have spied Apple Computer Inc's much-hyped Newton personal digital assistant - it's around the size of journalist's notebook and uses an unattached writing stylus - ask is it a computer though? Apparently it doesn't offer a great deal more functionality than current electronic notebooks - and Apple was most offended when one observer dared asked whether the thing is a toy - until it is plugged into any one of the variety of hosts it will ultimately support, that is. It has a plethora of communications options. Indeed, used as a portable terminal, observers say the thing will find use in conjunction with a host of consumer electronics devices, and is therefore just as likely to be reviewed in non-computer titles as in the mainstream IT press. A possible debut for Newton is the MacWorld Expo show during the first week of August in Boston.

PROGRESS SOFTWARE GOES GRAPHICAL WITH PROGRESS 7, OFFERS

DEVELOPMENT TOOLS WITHOUT DATABASE

For the first time, Progress Software Corp intends to sell the software development tools of its newly released applications development environment - Progress Version 7 - separately from the database. Although the Bedford, Massachusetts-based company doesn't expect many stand-alone databases to roll off the shelves, it does hope to use the tools as a trojan horse to infiltrate new customer sites. The reasons why anyone would want to buy its tools separately, according to Progress, are as follows. First, managing director, Jim Bush, claims they are "the first integrated set of graphical development tools for building applications that can be deployed on either graphical user interface workstations or traditional character mode terminals." He added, Progress Version 7 "is a complete graphical programming environment, which generates 4GL code, which can be compiled, run and debugged as it is created." The Progress fourth generation language includes an ANSI-standard SQL and its English syntax, the group claims, enables developers to create applications "in a fraction of the time" because they don't need to drop down to a third generation or scripting language. As a result, users need learn and use only one language to build native look-and-feel graphical applications. Graphical, event-driven extensions have also been added so that applications can respond to user interface and database events. Second, Bush said "These applications are portable and compatible across both client-server and host-based systems". They also run in mixed environments without changes needing to be made to the application code, and are database-independent. So, "If you develop an application under MS Windows, for example, and then deploy it on a Unix system running Motif, Progress will automatically adapt and conform to the native look and feel of the target system graphical interface manager". And Bush added, "Client-to-client communications have also been extended. Application client interfaces now enable Progress applications to exchange and integrate information with other packages, such as spreadsheets, word processors or graphics software". Moreover, he emphasised, Progress has made Version 7 compatible with Version 6. This, he said "means that our existing user base... can run their existing ASCII applications under Version 7, adding graphical attributes to them if they so wish. And they can develop and run new graphical applications, and they can run both types of user interface side by side". This is possible because the Progress proprietary language underlies both versions, he said. So, Bush reckons that even if customers don't want to buy the full Progress Version 7 package, they will be tempted by the functionality of the tool set. And when they see how well these tools work and how easy they are to use, they may well migrate to a Progress database too.

Re-engineering tool

But, while he describes Progress Version 7 as a "re-engineering tool for organisations wanting to change their applications radically," he still expects the majority of upgrades to go to existing users. The decision to move to graphical user interface technology in the first place was, he said, dictated by customer demand, particularly value-added resellers, which make up about two thirds of the firm's client base. It has sold about 17,000 licences worldwide, and approximately 50,000 in the UK. The emphasis on tools rather than database this time is partly due to what Bush feels is an inaccurate positioning of Progress as a relational database company. It is, in fact, he attests, an integrated database and tools vendor. But that said, Progress does not intend to neglect development work on its database - it has incorporated all the "major enhancements" of Version 6.3 into Version 7 and added such facilities as distributed database management with two-phase commit, on-line back-up and record-level locking. It also plans to add object extensions, possibly in the next release, with the help of Burlington, Massachusetts-based Object Design Inc. Progress Version 7 will be available commercially later this quarter running under environments from such vendors as IBM Corp, ICL Plc, Sun Microsystems Inc, Novell Inc, Microsoft Corp and NCR Corp. Pricing has not yet been decided.

FUJITSU TO CUT 11% OF JOBS OVER TWO YEARS

Underlining that the Japanese commitment to full employment is beginning to be broken down by intractable market forces, Fujitsu Ltd last week announced that it plans to reduce the parent company workforce by about 6,000 employees, over 10% of the 54,400 it had as of March 31, over the coming two to three years - but many will go into affiliates, where the deal is that the individual gets a nominal promotion, very important in status-conscious Japan, at the cost of a reduction in salary of as much as 30%. To cut costs, the company says that starting this fiscal, it will transfer 700 to 800 people yearly to affiliated companies, an average increase of 20% from previous years. It will hire only 300 new graduates next April, and then only those with engineering degrees, down from 2,200 hired this April. It also expects about 2,000 employees a year to leave for retirement or, in the case of women, marriage. The news has not impressed analysts, who dislike the sleight of hand of shunting employees off into affiliates: "There's too much musical chairs and not enough actual reduction in force," Steve Myers, senior analyst at Jardine Fleming Securities told Reuter. "They probably wanted to reduce numbers more," said Shigeru Yoshinaka, analyst at Barclays de Zoete Wedd Securities. "If they transferred too many employees, it would be bad for morale. They are worried about opposition in the company." For fiscal 1993, the company reported a consolidated pretax loss of \$150m, a 3% drop in computer equipment sales and a shocking 13.5% fall in orders.

TEXAS DELIVERS 60MHz SUPERSPARC+

Texas Instruments Inc is now reportedly sampling 60MHz versions of the SuperSparc RISC+, destined for use in future Sun Microsystems Inc computers. TI expects 75 SPECint92 and 95 SPECfp92 from the part - similar performance marks, *Microprocessor Report* observes, to Hewlett-Packard Co's current 99MHz Precision Architecture 7100, Mips Technologies Inc's 150MHz R4400 and Digital Equipment Corp's 150MHz Alpha AXP - still some way behind the 200MHz Alpha, however. TI's 60MHz SS+ is tagged at \$1,000 for 1,000-up - the required cache controller chip is an extra \$400 - meaning total cost is still higher than \$1,120 for the R4400, \$860 for the 150MHz Alpha in similar quantities, and also more than the lower performing Intel Corp Pentium at \$1,050, which comes with cache control. At the same time, TI has also cut the price of its initial two-chip 50MHz SS+ to \$1,080. A 40MHz, 50 SPECint92 version which does not require the cache control chip is renamed SuperSparc-LE and is priced at \$450 - or \$300 for 10,000-up. It is aimed at high-end embedded applications.

IBM ACCOMPANIES NEW RS/6000 KIT WITH PRICE CUTS

IBM Corp's has a new 7135 RAIDiant Array Model 110 disk array for the RS/6000 which implements multiple concurrent levels of RAID architecture - any combination of RAID 0, 1, 3 and 5 can be implemented at the same time. The Model 110 includes 2.6Gb of disk upgradable to a maximum 39Gb with 30 1.3Gb or 60Gb with 30 2.0Gb disk drives. Drive modules can be replaced by the customer. It is offered with single controller, standby controller, or dual active controllers, and also supports RS/6000 high availability clusters. The Model 110 starts at \$38,750 and arrives in September. And, as expected (UX No 444), IBM has also revealed a new RS/6000 Model 34H - in workstation and server configurations, offers 37% improvement in floating point performance in the 300 series. It uses 41.6MHz CPU and comes with 16Mb and 400Mb disk. It costs from \$13,200 with AIX/6000, next month. The company also cut prices of some existing models, with the 580 cut 16% to \$52,500, the 97B cut 15.9% to \$94,500 and the 98B 13.1% to \$100,000. The 400Mb, 800Mb, 1Gb and 2.4Gb SCSI disk drives are all cut by 20%. IBM AIX Distributed Computing Environment version 1.2 now supports distributed file services, and it costs \$3,000, this month.

INTEL HITS BILLION DOLLAR HALF-YEAR...

Intel Corp last week reported on its first billion dollar half-year - profits, that is - as the company announced that it exceeded its goal of shipping 10,000 Pentium processors in the second quarter. It expects to raise production substantially this quarter. The company also managed to increase its 80486 shipments very quickly and volume here expanded rapidly. Second quarter net profits soared 166.7% at \$568.5m on turnover that rose 61.3% at \$2,129.6m. Mid-term net profits rocketed 181% to \$1,116.5m on turnover that rose 62.2% at \$4,153.1m. Net earnings per share, adjusted for a two-for-one split in May, jumped 160% to \$1.30 in the quarter, 172% to \$2.53 in the half.

...AS SEQUENT BLAMES LATE PENTIUM DELIVERIES FOR SHORTFALL...

And, pouring more cold water on Intel's claims, Sequent Computer Systems Inc is pinning the blame for an expected shortfall in its second quarter earnings firmly on Intel's shoulders. Sequent says it is likely to break even on \$80m second quarter turnover - analysts had been looking for \$90m and 25 cents per share profits. Sequent chairman Casey Powell is reported as saying that a shortage of Pentiums led to delays in large orders. It says it had fully expected Intel to meet its commitments but in the event ended up with machines awaiting boards that should have already be installed at customer sites. Sequent's figures are due on the 29th.

...SO WHY ARE SOME PENTIUM ALLOCATIONS DOUBLED?

One West Coast system builder has had its Pentium allocation doubled by Intel Corp, sources hear. A UK personal computer manufacturer says the same has been granted to it. So what's occurring? Although Intel claims it is reaching its Pentium production targets - see above - news reaching us suggests that one (or more) of its preferred suppliers isn't taking up a full Pentium allocation. That's probably because it is proving difficult for manufacturers to shift Pentium systems in any significant numbers because of the price they are having to ask for "Pentium inside." As well as the lofty charge Intel is making for Pentium, observers argue that the cheaper and faster 80486 clones from Cyrix Corp and Advanced Micro Devices Inc are looking more and more attractive. Moreover, IBM Corp's forthcoming Blue Lightning - a 100Mhz 80486 clock-tripler (though it's still 33MHz on the bus) - is shaping up to be the highest 80486 specification part that'll be available by the end of the year: Pentium performance at half the price?

ENCORE MOVES ON WITH INFINITY R/T REAL-TIME UNIX FAMILY

Encore Computer Corp, Fort Lauderdale, Florida has come out with a new line of real-time machines, the Infinity R/T. Aimed at the simulation, energy, telemetry and virtual reality worlds, the machine is built around Motorola Inc 88110 RISC microprocessors and runs the company's real-time implementation of Unix. The first member of the new family is the Model 200, which is available immediately. The company claims a symmetric multiprocessor architecture with very large caches, very fast buses, the "largest base memory configuration in the industry", and direct hardware connection to on-board interrupts and timers. It comes with one to four processors within a single node, and the ability of multiple nodes to operate on a single task - and they can be in a single enclosure. Encore promises that future models will offer object code and bus compatibility with the proprietary Concept/32 minis.

UNIFY "PEACOCK" OBJECT SYSTEM DUE SEPTEMBER

Sacramento, California-based Unify Corp will introduce its next generation object-oriented graphical application development environment on September 21. The product codenamed Peacock, and as yet not officially named, is based on Visix Software Inc's Galaxy cross development application programming environment. According to Unify, it will enable users to develop and deploy graphical object-oriented applications over distributed environments. Future Peacock users will also be able to build applications with generic multimedia drivers embedded in the code, which enable video, graphics and audio to sent to other applications on distributed networks. The software will support a variety of different platforms including Unix, Microsoft Corp Windows, Windows NT and Apple Computer Inc's Macintosh.

THE OBJECTS OF IBM'S DESIRE

By Alison Hawkings

IBM Corp is really beginning to talk up the merits of its various object-oriented software development efforts. At last week's Object Expo Europe '93 event in London, Cliff Reeves, the firm's worldwide director of object product technology, outlined IBM's plan for the Taligent operating system - derived from the Apple Computer Inc/IBM object venture of the same name - and its own Distributed System Object Model toolkit. He also told developers of the firm's plans to restructure its software development process.

Object technology will become as revolutionary as the discovery of sub-routines were in the 1970's, Reeve claims, because objects go one step further and let users extend and modify code in line with their specifications. Traditionally, sub-routine technology has existed on the premise of pre-definition and it isn't flexible or sophisticated enough to deal with new technologies such as the Object Management Group's CORBA specification and the Open Software Foundation's Distributed Computing and Distributed Management Environments. "In the past, software suppliers made money by providing shrinkwrapped packages, which in essence were complete solutions for single machines. But this isn't a viable option for developers any more, because users are demanding more complex, scalable and distributed products... and object technology is one way of delivering extensible and pluggable components," he says.

To mirror market trends, IBM has restructured its software strategy to take advantage of distributed computing at every level of systems software development. Future application development will be structured using a modular or component-based framework, which will enable applications to be "smeared" across networks at both the client and server level. Reeves claims this will make application development and deployment more flexible and dynamic. End-users will be able to adapt software in accordance with their requirements.

Trio

IBM currently has three major object projects: the Distributed Systems Object Model, Taligent and OpenDoc, the latter being its version of Microsoft Corp's Object Linking and Embedding specification. The Distributed Systems Object Model (DSOM), introduced last month, is a cross-development toolkit that enables objects to work together, irrespective of platform or language they were originally written in. In its simplest form, DSOM provides a standard way of defining an object interface by using CORBA's interface language definition. Generic binaries are also provided, which let the toolkit work with any implementation of ANSI C, C++ or Cobol - support for Digital Inc's SmallTalk language has been added this month. DSOM is available now for OS/2 and versions for Macintosh, AIX/6000 will be added by the end of the year. Last week, IBM also announced a co-development with Hewlett-Packard Co to port DSOM to PA-RISC platforms and to jointly develop enhanced distributed features for the toolkit.

The key to Taligent, meanwhile, is its technological structure, says Reeves. Unlike any other operating system except NeXTStep, it is based on an object-oriented microkernel framework, which categorises a series of co-defined objects and patterns into a set of class libraries. According to Reeves, Taligent engineers have already defined compound documents, multimedia, internationalisation and GUI libraries, which will enable users to generate more than 60% of applications before manual coding begins. This means independent software vendors will be able to cut programming schedules in half and with that the cost of development. Prices to the end user should also decrease in the long term. The other benefit, Reeves claims, Taligent brings is the ability to design and deploy more sophisticated applications across computing environments. Developers kits for the first set of class libraries should be released by the end of the year. "Taligent has been designed to understand the complexities of networks, application interoperability and development. It'll be DCE-, DME-, CORBA and COSE-compliant, which means it is an operating system designed for the next generation of computers and software," he says.

In sync with its Taligent effort, IBM is also revamping its overall Unix strategy (UX No 443). The plan is to move AIX/6000, AIX Lite, AIX/ESA and other IBM operating systems such as Workplace Shell and OS/2 over to a microkernel base in the next two years. (Microkernels essentially squash operating system functions into the smallest space possible, which enables the systems to run alot faster). Sitting on top of the microkernel is a series of personality layers. Some cater for different operating systems and graphical user interfaces; and others called personality neutral services, will include features that operate the same in a variety of different architectures such as databases, communications and print services. Eventually the system will turn into a complete Taligent implementation.

IBM positions Taligent and OpenDoc against Microsoft Corp's Object Linking and Embedding 2.0 (OLE) specification, which will eventually turn into Cairo, and NeXT Computer Inc's NeXTStep environment. OLE 2.0 is designed to embed compound document components in different applications and across different operating systems. But it is primarily concerned with desktop interaction, "and it does a good job as far as it goes," says Reeves. For example a user in Excel can request graphics from Lotus 1-2-3 and import it into Excel. The graph can be manipulated, changed and updated in both applications, everything a desktop user requires. But as a distributed technology it falls short. In Reeves words, OLE is like having a conversation between members of a family in the family's house, as soon as you go out of the room or introduce anybody new there are problems with communication. The Taligent approach is different. Taligent is like a telephone system, Reeve says. Any object or communication path can be established across a distributed object environment and applications can be deployed in the same way.

Interoperability

To prepare users for Taligent, IBM, Apple and a ream of other software suppliers including Novell Inc, WordPerfect Corp and Borland International launched OpenDoc, an alternative to Microsoft's OLE specification, at PC Expo in New York few weeks ago. OpenDoc, like OLE, is intended to provide document interoperability between different applications and platforms by passing objects across networks. It is based primarily on technology from Apple and IBM. Apple provides compound document and open scripting, which defines links and embed rules for events between applications. Apple's Bento technology provides data structure definitions, which translates different application data types. The other parts of OpenDoc are based on DSOM, IBM says. OpenDOC is available now for OS/2, Windows, and AIX, and support for NetWare, OS/400, MVS and System 7 will follow later in the year. Microsoft is currently developing Dynamic Data Exchange extensions for OLE 2.0 to solve some of its distributed networking problems.

The other player in the market is Next Computer Inc. Like Taligent, NeXTStep is based on an object framework, and was the first object-oriented operating system to be developed for the commercial market in 1989. "NeXTStep was a phenomenal programming environment for its time. It was fast and a very rich environment for application development, but it didn't go far enough to solve issues like memory management or object distribution. Taligent is one rev on from that," he says. According to Reeves, NeXT's problem wasn't its technology but the firm's business strategy. It only designed NeXTStep to run on proprietary hardware, which was then compounded by high end-user prices and no commitment to run it on other platforms.

IDC SEES DOWNWARDS PRESSURE ON SOFTWARE PRICES IN EXPANDING EURO MARKETPLACE

IDC's European Unix centre in Copenhagen, Denmark, says sales of packaged Unix software was worth \$3,508m in 1992 - 24% up on the previous year's \$2,839m. In fact at 24%, the growth in value of software shipped was significantly more than the flat 9% growth in hardware revenues. IDC attributes the surge in software sales to the increased penetration of applications - especially from the MS-DOS and Windows worlds - on to Unix, and more stable software prices, in comparison to hardware price-cutting wars. However, in what can only be good news for customers and users, the market research company says it expects pressure on hardware margins to start carrying over into software pricing. Nevertheless, IDC says the European Unix software market will top \$4,200m this year, rising to \$10,000m by 1998. By that time, it says Unix software revenues will account for 23% of all packaged licensing revenues in Europe. Application tools vendors look likely to reap most rewards from this trend - IDC forecasts sales in this sector will grow at a compound annual growth rate of 21% to 1998 (the tools market grew 29% last year alone over 1991), driven, it says, by the increased use of relational databases, data access and executive information systems and graphical software. Indeed, according to these parameters, tools should overtake solutions as the second largest segment of the software market by 1998. Revenues from application solutions will grow at 16% from now until 1998. In that sector, sales of office automation software will be especially high - technical applications will grow at a much slower rate. Sales of systems software grew 24% over 1991, application tools 29% and application solutions 19%.

HP PLANS EIGHT-WAY CORPORATE SERVER...

Hewlett-Packard Co's current top-end Unix boxes, the one-to-four CPU HP 9000 model 890 Unix servers will get a boost later in the year with a planned eight-way system. In the meantime, the 890s are being offered as packaged mainframe alternatives with an expanded range of bundled software and services such as performance management, backup, spooling and high-availability software and new hardware and software maintenance options. As a regular database server the uni-processor 890 costs \$165,000 - as a packaged mainframe alternative system it is priced at \$319,000. Dual processor versions are now \$230,000 and \$442,000 respectively, the three-CPU model is \$295,000 and \$545,700, whilst the quad-processor is \$360,000 and \$668,500 in those configurations. All use the 60MHz standard PA RISC.

...BACKS ORACLE'S APPLICATIONS IN EUROPE

Hewlett-Packard Co and Oracle Corp will announce in September a joint marketing agreement for Europe to collaborate on the marketing of Oracle's growing portfolio of applications software. Julian Garrett, Oracle's European applications director, based here in the UK, says signing the agreement is just the formalisation of a situation that has been in practice for some time. HP-UX accounts for 21% of Oracle's application sites in Europe, including the UK, and 32.5% excluding the UK, Garrett said.

NETWARE BUNDLED WITH AVIIION

Westborough, Massachusetts-based Data General Corp has announced a come-on to encourage people to migrate to its just announced second-generation AViiON servers: customers worldwide that place orders for one new AV 8500 or AV 9500 enterprise servers can receive a five-user NetWare for Unix licence at no extra charge. Data General claims to be the first open systems vendor to offer a RISC-based Unix system with NetWare capabilities as a free option. Data General also claims to be the only Unix vendor shipping the NetWare MHS messaging system on Unix, with an optional MHS-SMTP-X400 Gateway, providing networked personal computer users with one server for file, print and mail.

COSE SPECS PASS GO IN FAST-TRACK PROCESS - USERS SAY COSE "HAS YET TO PROVE ITSELF,"

To enable its common desktop environment to be fast-tracked as an X/Open Co standard, a preliminary version of the Common Open Software Environment's embryonic specification went before X/Open's desktop user requirements and common desktop environment working groups in San Francisco last week to begin the process begin getting feedback from users, independent software developers and vendors (UX No 443). The user meeting, chaired by Shell International Petroleum's Geoff Coupe, was convened as a Requirements Topic Group (RTG), a sub-committee of the full X/Open User Council, and focused on issues such as how users will relate to and have input into the X/Open-COSE process and specification document. Real user participation in reviewing the content of the COSE specification won't happen until a full meeting of the 100-member User Council in Houston, Texas, in September. In the meantime the RTG will offer feedback to users on the COSE process and its perceived relationship to their industries. Coupe says it is still "early days" and that users - who have been pressing for a resolution of the interface issue 1989 - would have preferred such an initiative to come from standard open systems processes and groups rather than the COSE non-organisation. However, the relationship that X/Open is striking with the COSE process is one he thinks that users will be able to work with. The RTG in its subsequent deliberations will state users' requirements, in business terms, and try to turn that business language into a technical form that X/Open groups can work with. "The RTG is focusing on the bottom business line," says Coupe, "acting as a bridge between business and technology gap. It'll be September before users get their teeth into it." He warns everyone involved, however, that they "must deliver" on this one, "because time is not on our side."

...X/OPEN WILL ACCEPT SEPARATE COSE MODULES

The draft COSE specification then went forward to two meetings of X/Open's common desktop environment working group, the first comprised of seven, the second ten, ISVs and developers. The group looked at the what the effects of fast-tracking the specification will mean for their side of the industry. It previewed the document itself and prepared a means to offer feedback and establish dialogue with the rest of the ISV and developer community. Attempts to fast track the COSE code could have been stymied here, had the X/Open groups voted to prevent the desktop going forward. The net result means there will be industry dialogue, orchestrated through the X/Open groups on the preliminary, then final specification as soon as it is ready. The key decision made last week is that X/Open has agreed to let COSE submit pieces of its specification as it comes along, and to fast-track these components individually. In effect what will happen is that rather than endorsing a common integrated environment, X/Open will be putting its stamp on company-specific product components of COSE, in much the same way its has taken on Motif. COSE modules like the desktop management system, Sun Microsystems Inc's ToolTalk messaging system, the data interchange system, network services and utilities can now be branded by X/Open as individual services. The group also concluded that a means for providing feedback to members and then dialogue with the COSE firms should look at areas of the specification needing clarification and further consideration, a means to settle issues raised and provide extra material to cover omissions. This feedback will take place a subsequent meetings and over e-mail communications between COSE firms and X/Open ISV members. The group also agreed on how it will move the whole fast-track procedure forward. X/Open says there is a willingness to get the job accomplished and says it has received 600 requests for copies of the 100-page COSE functional specification. It has had no formal connection with COSE over any of the other four or five technology areas the COSE vendors are looking at, such as distributed computing, distributed management and objects. X/Open, which had its plate full even before COSE came along, says the COSE firms are putting up more cash to help the X/Open process along. X/Open isn't prepared to offer an opinion on whether the COSE firms will be able to deliver any tangible code by the time of its planned developers conference in October. X/Open's calls for delivery of a full specification proposal by December, and a sample implementation of the desktop by the middle of next year.

ADOBE AIMS TO FIX FAX, BOP COPIER, EX FEDEX WITH ADOBE DOCUMENT EXCHANGE TECHNOLOGY

By Chris Rose

Adobe Systems Inc has launched Acrobat, its product that will enable documents, rich in graphics and fonts, to be transferred between Windows, MS-DOS, Macintosh and Unix machines without losing any information. It sounds an easy proposition: documents should look the same, no matter what machine they are viewed on - there should be no mucking around installing the right fonts, or ensuring image file compatibility.

It's not easy of course - as can be seen by the fact that the company first started talking about Acrobat (then called Carousel) in November 1991 and said it would be ready by the end of the following year. Privately, those who have worked on the project acknowledge that it proved a much more difficult task than first envisaged. Indeed the product's specifications have both grown and shrunk since its original inception. It has grown with the addition of the Topic document retrieval engine from Mountain View, California neighbour Verity Inc, that will enable swift navigation around the document and a tie-up with Avalanche Development Co that will give Acrobat the ability to work with the SGML Standardised Generalised Markup Language. Where the specifications have shrunk somewhat is in the degree of editability that the Acrobat-generated files will possess. Originally there was talk of users being able to edit the files: now they can only annotate them. At Acrobat's heart beats a PostScript language-based file format called the Portable Document Format, PDF. The specifications of PDF will be published for use as an open standard, says Adobe, and it is designed to describe not only the visual aspects of the document, but also annotations, hypertext links and miniature thumbnail sketches of the page. Document structure attributes won't be in the first releases, but some time in the future Adobe says that Portable Document Format will be extended to deal intelligently with chapters, headlines, subheadings and the like.

Avalanche

This technology is being bought in from the aforementioned Avalanche Development, and another firm, Mastersoft, of Scottsdale, Arizona, which is giving Adobe application-specific "filters" that will identify the structure present in documents and enable Adobe to interpret them intelligently, "numerous for mats" will be supported according to the company, including Word, Wordperfect and Framemaker. As far as SGML is concerned, the company says that it is exploring ways, not only to pull Markup Language documents into Portable Document Format files, but also to extract them again at the other end. The extracted file will retain the same text and structural information as the original, says the company. Which brings us to the thorny topic of fonts. Getting fonts right is pretty horrendous when moving documents between machines of the same type, let alone between incompatible ones - if the destination machine does not have the right ones installed then the result is a bit-mapped mess. If there is one thing that Adobe is good at it is fonts, so the Portable Document Format file contains information about the font, without actually having to embed the font itself: so there is data on the weight, width, and style of the typefaces in the document, as well as the name of the specific font.

If the destination machine does not have the necessary fonts then Acrobat reads the metrics and simulates the look of the text, using Adobe's Multiple Master technology. If it sounds as if these files are going to be huge - they shouldn't be. Adobe uses a variety of compression algorithms to keep them compact, with claimed compression ratios ranging from 10:1 for colour images to 2:1 for mixed text and graphics, usually, the company says, the files will be significantly smaller than those generated by Group III fax compression. But what of products? There are four, with versions of each appearing first for Windows and Macintosh, with Unix and MS-DOS appearing later this year. First and foremost is Acrobat Reader, which simply enables users to view, search, navigate and print PDF documents - it is generally expected to cost as little as \$25 when ordered in bulk. For Acrobat to be successful, it is this reader that will have to achieve near ubiquity. More ambitious, is Acrobat Exchange, the actual authoring package, expected to cost between \$100 and \$200, which adds the ability to annotate PDF files. Bundled with exchange is Acrobat PDF Writer: if you were wondering where all these Portable Document Format files were coming from, here is your the answer.

PDF Writer is a hardware-specific printer driver that produces PDF files from most applications: it is a simple idea which effectively means that any Windows or Mac application that can drive a PostScript printer will be able to squirt out PDF files by the user simply selecting the appropriate driver. PDF Writer will also be bundled. Finally, where the driver solution does not apply, the company will provide Acrobat Distiller, a utility that will translate standard PostScript language files into the new PDF format. As for timing, the Macintosh and Windows versions are expected to ship virtually straight away, with previous pronouncements from Adobe indicating that Unix and MS-DOS readers should be expected later this year, though nothing was said about the exchange software or the Distiller. One hole in the product line is that nowhere is there mention of either a Distiller or a PDF writer for MS-DOS, though Exchange is promised. However the company says that MS-DOS users will use Distiller by accessing it over a network. The analysts are generally gung-ho about what Acrobat will mean for Adobe; and the company's shares have risen from around \$45 in May to around \$67 where it was hovering late last week. A big spurt in early May was attributed to a presentation by Adobe chairman John Warnock to the Hambrecht & Quist technology conference in San Francisco where he showed the technology off to good effect. But Reuter reports that others, though enthusiastic, are warning their clients to wait for actual sales before investing. One particular loose cannon that may yet hole it is Microsoft At Work.

Microsoft At Work

On the one hand they can be seen as complementary: whereas Acrobat is primarily for computer-to-computer use, Microsoft At Work deals with simplifying communication between personal computers and information sources and destinations such as facsimile, phone and copier. On the other when Adobe's Warnock tells the *San Jose Mercury News* that Acrobat is "nothing less than a way for companies to virtually eliminate fax machines, copiers and Federal Express" there is an inkling of the competition that could ensue. So super-intelligent fax machines, or fax machines in the museum? It could go either way, but as an aside it is worth noting the surprise some observers felt when they discovered just how many big office equipment names Microsoft had managed to garner in support of At Work. It is just, just possible Acrobat provided an impetus for such unity. Perhaps they took a squint at what Adobe was up to, and realised that the writing was on the screen.

IS THERE IS A BIG MARKET FOR NT SERVERS?

The debate on whether Unix or Microsoft Corp's Windows NT will triumph as the server operating system of the future is in full flood. According to *Computerwoche*, the Business Research Group is backing Microsoft, while InfoCorp reckons that by 1997, Unix will claim the lion's share of the market. The Business Research Group bases its belief on a survey it undertook with the US's 500 largest firms. Some 59% of those questioned said they not only wanted to buy NT, they also wanted to use it. Only 39% plumped for Unix, and a further 36% for IBM Corp's OS/2. But, analysts' claim, if NT doesn't simply want to be a nine-day wonder, Microsoft must prove it can be put to practical use. And a critical factor in its success, they say, will be whether it can be integrated with mainframes in the data processing environment. "Customers wanting to downsize need a system that can work with mission-critical applications without any problems". Unfortunately, Microsoft doesn't have any experience in this arena. On the flip side, mid-range systems programme director at InfoCorp, Robert Sakakeeny, says "If customers consider that the most important reason for buying NT is the range of Windows applications available, then it is Unix that will succeed, not the Microsoft operating system". As a result, he doesn't believe that NT will command much more than 12% of the server market by 1997, compared with a 62% share for Unix. This is, he says, because Windows applications can easily be integrated with both NetWare and Unix as front-end systems. So, there is no reason for users to want to upgrade to NT. Still, over time, he reckons that NT will increase market share - not because of Unix pricing however, but because of proprietary operating systems, such as IBM Corp's OS/2.

TEKTRONIX LAUNCHES NEW HIGH-END X-TERMINALS...

Tektronix Inc is claiming leadership in the X-terminal performance stakes with the launch of a new range of high-end X-terminals. The XP350 Series are the first to use the LSI 33020 (33MHz) version of the MIPS R3000 RISC processor (UX No 444). Tektronix says it helped LSI integrate the graphics co-processor into the chip. Previously, the company used a separate Texas Instruments graphics chip, still used in lower-end models. The result is an X-terminal rated at 120,000 XStones, compared to the 90,300 XStones of its nearest rival, the HP 700/RX. There are three models: the XP354 19" greyscale, and the XP35 17" and XP358 19" 256 colour models, with UK prices starting at 2,150 and rising to 4,550 for the XP358. The terminals run X11 Release 5 and XPressWare V6.2, Tektronix's bundle of local client emulation, windowing, printing and administration software. The company says that most of its performance gains come from optimising the software: its XP11 model introduced in September 1991, has increased in performance from 30,000 to 80,000 XStones without changes to the hardware, claimed Martin Jowett of Tektronix UK. Tektronix, which shipped 18,000 X-terminals in 1992, and hopes to shift around 36,000 this year, still counts computer graphics and printers as one of its core businesses: the division contributed 21% of revenues to the company last year (test and measurement took 57% and TV systems 22%).

...AS SGI AND TEKTRONIX COLLABORATE ON VIRTUAL REALITY

Silicon Graphics Corp and Tektronix Inc are apparently collaborating in the area of virtual reality, with Tektronix contributing low-resolution but high-quality screens suitable for these applications. Tektronix has a Display Products Operation at Beaverton, Oregon where it produces everything from flat screen technology to stereo shutters. The two companies have moved closer since Tektronix withdrew from the workstation market a few years ago, with SGI reselling Tektronix X-terminals and colour printers.

OSF SHIPS PILOT VERSIONS OF DISTRIBUTED FILE SYSTEM...

The Open Software Foundation claims it and IBM Corp have some 2,200 beta sites installed with Distributed Computing Environment between them. OSF assures us that pilot versions of the Distributed File System element, crucial for allowing users to exchange files within DCE, are now in place (UX No 441). It claims many DCE customers, such as on-line transaction processing and database application users, don't actually need DFS in any case.

...SO HOW WILL DCE AND ONC CO-EXIST?

And how long is it that we've been examining the issue of Distributed Computing Environment/Open Network Computing interoperability? (Since March 1989 actually (UX No 222), OSF's request of technology went out in June of that year (UX No 236)). Now that DCE technologies are actually being used - see above - it is now more patently obvious than ever that interoperability between Sun Microsystems Inc's Network File System (contained in ONC) and OSF's Distributed File System is important. There are well over three million NFS nodes, whoever is counting, so NFS clients must be able to access DFS servers. We now understand that DCE allows a user or administrator to mount a DCE fileset as an NFS directory and that DFS clients will be able to access DFS data. DCE proponents argue however, that ONC's remote procedure call (RPC) - incompatible with the Hewlett-Packard Co/Apollo Computer Incorporated Network Computing System remote procedure call featured in DCE - has not seen very wide use as an end-user programming tool (as opposed to being a part of NFS). They say the reason is because of the lack of time it takes users to learn how to write distributed applications and the lack of functionality the said RPC provides.

PRE-BETA WABI NEEDS PIECES OF WINDOWS

SunSelect Inc has reportedly shipped a prebeta version of its Wabi software to OEMs which requires pieces of Windows or an MS-DOS emulator to run Windows applications on Unix. It's not letting the thing out for review, scared of Microsoft's response. Apparently, if a Windows application doesn't have Windows Help, DDE (dynamic data exchange) and OLE (object linking and embedding), users must run Windows to enable Wabi to work. Four of the 14 Windows applications that'll run under the initial version of Wabi don't have these components. SunSelect says the full Wabi 1.0 release, due in August, will not require Windows. Others say a Windows or MS-DOS emulator will be required until Wabi 1.x ships later in the year or early 1994. Wabi's competitor, the forthcoming Microsoft Corp-blessed SoftWindows from Insignia Solutions Inc, will however, require a MS-DOS emulator.

33 FIRMS FORM GROUP TO DEFINE UNIX SYSTEM ADMIN, STORAGE STANDARDS

Another Unix unification initiative, similar in vein to COSE, has been formed to define specifications for Unix systems administration and storage management technologies. The organisation called the Data Management Interface Group (DMIG) was announced a few weeks ago by thirty three Unix hardware and software suppliers - including large numbers of COSE supporters - to define and promote industry standards for data management products such as backup and restore, file migration, compression, encryption and monitoring. DMIG specifications will also be included in parts of COSE's distributed system administration definitions, called COSE III. Founding DMIG members include Hewlett-Packard Co, Epoch Systems Inc, Hewlett-Packard Co, SunSoft Inc, IBM, Univel Inc, USL, Auspex Systems Inc, Transarc Corp, OpenVision, Unisys Corp, Santa Cruz Operation Inc and Silicon Graphics Inc. DMIG is currently drawing up its first specification on file compression, performance management and analysis, and its scheduled for release by the end of the summer. According to DMIG chairman Ross Garber, the application programming interfaces will be integrated natively on specific operating systems including Solaris, HP-UX, OSF/1, UnixWare, SCO Unix and AIX. The specification, like COSE's Common Desktop Environment definition, will be submitted to X/Open for ratification and XPG compliance, the group says. In the meantime, COSE's systems management workgroup will use DMIG storage management specifications to define parts of its own COSE III efforts, which is due for publication in 1995 (UX No 440). For more information contact DMIG via e-mail at dmig-request@epoch.com. COSE's own systems management workgroup, which plans to publish distributed systems administration specifications in 1995, will use DMIG's definitions for storage management parts of the API, Graber says.

NEW DAP MACHINE FROM CAMBRIDGE PARALLEL

Cambridge Parallel Processing Ltd, Bracknell, Berkshire, and of Irvine, California, has introduced its next generation massively parallel DAP (distributed array of processors) machines, the Gamma 1000 and 4000. Its also announced DAPText, the firm's first text retrieval package for massively parallel systems. The Gamma machines are single instruction multiple data systems and come with either 1024 processors or 4096 processors, the Gamma 1000 and 4000 respectively. The processors are custom built for the systems and are manufactured under contract by VLSI, CPP says. Each processor in the array contains a general purpose single bit processor, used for low precision transactions, and an 8-bit arithmetic processor, which is used for intensive computational operations. The Gamma 1000 is configured with up to 128Mb RAM. The Gamma 4000 comes with up to 512Mb of RAM. Both machines can be connected to host Unix systems from Sun Microsystems Inc, Hewlett-Packard Co and DEC. Existing CPP DAP 500 machines can be upgraded to the Gamma series, the company says. CPP has also introduced DAPText, a high-performance text retrieval package for network services such as news wires and document searches. It runs on CPP machines and supported Unix host systems. CPP claims DAPText can search 140 queries per second, with response times of less than one tenth of a second. The software is available now, but no prices were given.

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A mysterious time loop got into our lead story on IBM's AIX Roadmap a few weeks back (UX No 443) and had us substitute the name of IBM RS/6000 guru Phil Hester for Andy Heller, an earlier pioneer at IBM's AIX group who has long since left IBM to join HaL Computer Systems Inc. Sorry to all those concerned for the confusion.

Data General Corp has an installed base of some 20,000 Motorola Inc 88000-based AViiON machines - slightly less than **Sun Microsystems Inc's** monthly Sparc shipments, *Microprocessor Report* observes.

IBM Corp's latest RS/6000 Model 230 is built around a 45.5MHz Rios chip set which now uses an 0.5 micron CMOS process rather than the original 1.0 micron technology: it doesn't, however, use the four-metal layer PowerPC process, but a three-layer process derived from the firm's 16Mbit DRAM production process.

Digital Equipment Corp has released a version of Unix System Labs' Tuxedo transaction processing monitor for its Alpha AXP systems running OSF/1 - the first 64-bit Tuxedo implementation, the company claims - Tuxedo is already up on DEC's Ultrix variant. Ships begin on August 23, priced at from \$5,100 on the server and \$200 per client.

According to the *Microprocessor Report* **Toshiba Corp** has pushed back volume delivery schedules for the **Mips Technologies Inc**-designed R4000-to-80486 Tigershark chipset to the first quarter of 1994. Samples are now expected in the fourth quarter of this year, rather than this quarter as originally planned.

The first **Apple Macintosh** clones from San Jose, California-based NuTek Corp shipped recently: the Duet, which comes with a 33MHz Motorola Inc 68030 and a 33MHz Intel Corp 80486 and allows users to toggle between Macintosh and Windows environments, is priced at from \$3,000 with 8Mb RAM.

Unix-to-MS-DOS specialist, London-based **Custom Business Systems Ltd**, is now offering the Esix V.4 Unix implementation for Intel Corp iAPX-86 systems in the UK at £800: +44 71 323 2297.

The next version of **Sequent Computer Systems Inc's** Dynix/OS Unix operating system - now expected later this summer - will include an implementation of the multiprocessing technology it has developed for for Unix System Labs's Unix SVR4 ES/MP system (UX No 420). USL is supposed to deliver multiprocessing enhancements - such as user-level threads - performance management enablers, software installation and distribution management, OSI TP standard support, user and group management, and print, backup and restore management into a new release of SVR4 ES/MP due by the third quarter.

Communications Week believes that a management restructuring at **Novell Inc** is imminent, with a third executive joining Mary Burnside, chief operating officer, and Richard King, vice-president of services, to form a committee that would manage the firm in the event of Ray Noorda retiring.

Data General Corp has signed for **IXI Ltd's** X.desktop manager on its AViiON series: DG has sold the interface indirectly as part of the Uniplex office software it markets on the Unix line - DG has an outstanding agreement with Visix Software Inc for its alternative Looking Glass desktop.

Jonathan Eunice, lately **DH Brown Associates'** research manager for software tools, has spun out to start his own operation **Illuminata** in Pittsburgh focused on systems management. He's embarked on a global study and derivative competitive pieces on companies such as HP and IBM. It should take him two months to complete. He can be reached at his old number +1 412 488 1368.

IDC reckons **Sun Microsystems Inc's** change of mind and its decision to support Solaris 1.0 on its low-end boxes after all will tack another year on to the point its base crosses over to Solaris 2.0. Now it's beginning to look like the end of '94, it says.

Sources claim **SunSoft Inc** is at odds with SunSelect over the transfer price it is being asked to pay for WABI. SunSoft presumably rates SunSelect's most favourable pricing which comes in at \$18 per user bundled and \$36 unbundled for single-user Intel boxes in volumes of 100,000 or \$27 and \$54 respectively for RISC-based boxes (UX No 432). SunSelect has also been having trouble coming to terms with other potential licensees like HP and IBM.

It looks like **Lotus** will be moving its Ami Pro word processor, direct descendant of the first package ever to support Windows, if memory serves, over to Unix, beginning with HP-UX under Motif and supporting HP/VUE. It should be able to share files with Ami Pro for Windows and OS/2.

NCR Corp says it won't take the **Chorus** microkernel version of SVR4 Unix System Labs is working on but it will support whatever interfaces evolve.

Jim Harris, chairman of the board of the **Santa Cruz Operation**, died at his home in Minnesota July 10 of a chronic lung ailment. He was 49. He had been on the SCO board for some five years becoming chairman when co-founder Larry Michels left the company at the beginning of the year. Previously, he had been with Microsoft, responsible for its OEM operations. SCO president Lars Turndal is acting as the company's chairman until someone else is named. The company said there was a good chance it would be another outsider.

Sun Microsystems Computer Corporation (SMCC) eastern regional area VP Dave Walker is moving over to take over as VP, sales at SunSoft replacing Bill Larson, now general manager of SunSolutions.

We stand corrected: **Sun Microsystems** says we have to start calling WABI Wabi for "legal reasons."

There are some parts of **Novell Inc's** planned role for **Unix System Labs** within a Unix Systems Group that USL president Roel Pieper was reportedly unacquainted with: invited to attend a meeting of Novell executives to hear details of his and USL's fate, sources say Pieper was apparently expecting an invitation to join the Novell board. On learning of his role in the future organisation (UX No 444) - not an elevation into Novell's echelons, he departed the meeting, slamming the door in such a manner that the echo has been reverberating all around the industry over the last week or so.

And no wonder he lost his temper. Insiders say Pieper, who's reign at USL looks to be drawing to an end (UX No 444), will reportedly lose as much as \$4m if indeed Novell Inc's formation of a Unix Systems Group under Kanwal Rekhi means that his star fades and ultimately disappears from this latest Unix universe. Apparently, from the time Pieper took over Larry Dooling's positions as president and chief executive officer of USL in November 1991, details of his commensurate compensation and share option package - which would presumably have included provision for the kind of eventuality commentators are now forecasting - were never finalised. Insiders say Pieper will walk away with just \$2m of the \$6m he could have expected if the said compensation scheme had been in place.

In an important move - as far as government CASE contracts are concerned - the next version of French software house, Paris-based **Emeraude's** ECMA (European Computer Manufacturers' Association) Portable Common Tool Environment will be incorporated into **SunSoft Inc's** ToolTalk inter-application communications package: PCTE is endorsed by the **Object Management Group** as a long-term solution for fine-grain objects.

The Santa Cruz Operation Inc announced its third quarter results at the end of last week, revealing a downturn in profits and turnover. Net income for the quarter ending June 30 amounted to \$1,937,000 or 7 cents per share on revenues of \$42,744,000, compared with \$2,741,000 or 11 cents per share on revenues of \$40,209,000 for the third quarter of 1992. Revenues for the nine months ending June 30th were stronger, at \$131,497,000, compared to the prior year nine month total of \$115,901,000. Net income for the like period is \$9,638,000 in 1993, compared to \$5,358,000 in 1992. Lars Turndal, SCO President and CEO said the downturn this quarter reflected economic downturn, and "the delay in the signing of a number of contracts, which are shipping in the fourth quarter."

Novell Inc Chairman Ray Noorda was ready to fly to Washington DC last week to testify at a hearing on competitiveness in the industry before Jack Brooks, chairman of the House subcommittee for economic and commercial law. But the meeting was postponed at the last minute until September, as the Federal Trade Commission decides this Wednesday whether or not to continue with its three year investigation into possible anti-trust law violations by **Microsoft Corp**. Noorda's involvement, if it happens, will be the first public statement by a Microsoft competitor on the hitherto undercover investigation.

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SUN TO DEBUT ITS FIRST X TERMINAL AS SPARCLASSIC X

Kicking over statues one by one - the company endorsed Motif as part of the COSE announcement earlier this year - Sun Microsystems Inc will this Thursday announce its first X terminal, the \$2,545 Sparclassic X. As expected (UX No 442), Sparclassic X users will be able to upgrade to a fully-configured Sparclassic workstation with extra memory, hard disk and a Solaris object code licence for \$2,250. The 15" colour screen X terminal comes with 4Mb or to 8Mb RAM expandable to 96Mb and uses a 50MHz microSparc RISC. Other features include Sun's Wabi Windows-on-Unix technology, a local window manager, installation and administration software, 8-bit colour or GX graphics and a choice of five mono or colour monitor configurations. Sun says it'll run any X Windows application from any server on the network, software can be installed with one simple yes or no response and adding terminals to the network involves answers to just three questions. Performance is rated at from 1.54 to 2.33 XMarks - a Sparcstation 1 is rated at 1.0 (UX No 445) - and from 29,000 to 102,600 Xstones. Sun says the thing is optimised for networked Sparc systems running Solaris and is aiming the box at retail, transportation and branch automation organisations - the biggest adopters of X terminal technology so far. Sun had been philosophically opposed to X terminals for many years, claiming they were a step back to time-sharing techniques, but rumours - stretching back a couple of years or more in these pages - lingered that the company had never abandoned the concept completely. X terminals are the second "over my dead body" issue that Sun has conceded - although it has been offering third party devices in accounts as part of custom solutions for some time. Whether Sun will broaden the appeal of the Sparclassic X beyond its initial positioning as a Sun-centric product, for existing Sun customers remains to be seen. It has always maintained that it hasn't had the distribution or marketing channels required for an increasingly cut-throat X terminal business.

NCR OFFERS TERADATA USERS SYSTEM 3600 UPGRADE PATH

Instead of offering customers of its Teradata back-end parallel database engine a direct migration route up to the promised System 3700 massively parallel machine, originally due around the beginning of this year, NCR Corp will this week advise them that the existing Intel Corp 80486-based System 3600 should provide them with their next upgrade path. When NCR announced its plan to buy Teradata Corp back in December 1991, users of the El Segundo, California-based firm's DBC/1012 mainframe-class database engine were told that they, and users of the NCR System 3600 equivalent, would continue to be supported, but that the upgrade path for both would be a new System 3700 machine which would rely on Teradata technology. NCR is this week expected to announce general availability of a range of application processor enhancements to the DBC/1012 based upon the System 3600 which it says will allow the two technologies to become fully integrated. NCR says applications developed on the 3600 using Unix databases like Oracle and Sybase will be able to utilise Teradata's decision support functionality. DBC/1012 users will be able take advantage of archive storage facilities without needing a mainframe, allow them implement multiple database strategies, increase access to on-line processing facilities and provide links to a Unix platform for general application development. NCR says Model 2 DBC/1012 users should consider migration to a Model 4 or to an NCR 3600. "The 3600 may be the better option," it says, "especially where there are plans for functions that the Unix application processor supports, such as the use of the merchant relational databases for general purpose processing." DBC/1012 Model 3 and Model 4 users can scale up to take advantage the 3600 by adding access module processors, interface processors, communication processors and disks, as well as connecting multiple 3600s via the Ynet high-speed interconnect system. Model 3 users "may want to move to the 3600," the company adds, saying "the Unix application processor enhancements or the 3600 itself can be a migration path for Model 4 users," an option it says is already being considered by some DBC/1012 customers. NCR says it is committed to supporting the DBC/1012 - planned enhancements include release 5.0 and 5.1 of new software, the addition of 80486- and Pentium-based application processor modules and new disks arrays. NCR denies that this latest move signals the end of the 3700, saying plans are still in place for such a system - which is positioned as an absolute performance engine - though no timescales were offered. Other reports suggest NCR has delayed beta shipments of the 3700 - apparently because of engineering issues - until the first half of next year. That, observers suggest, is why the smaller scale 3600 system - which scales up to 100 CPUs - is being repositioned to take advantage of the Teradata opportunities. The 3700 is expected to use Pentium processors - the 3600 will be upgraded to Pentium during the first quarter of next year. The Teradata unit is now part of NCR's California-based large computer products division; NCR closed the European equivalent back in January.

SYBASE READIES ENTERPRISE OBJECT REPOSITORY

In move to provide users with a more cohesive and integrated application development environment, it says, Sybase Inc will introduce a ream of new application development products on September 3rd. The first and probably the most important product, currently codenamed Enterprise, is an object-oriented repository designed to house the firm's existing application development tools and integrate new ones into a defined framework. The repository will control and store tools, designs and provide data type translation to and from other applications for front-end, departmental and enterprise application development, says Mark Hoffman, Sybase president. It'll be supported across both Unix and Microsoft Corp Windows NT platforms. Hoffman says "there's nothing comparable to Enterprise on the market. Oracle can't compete against it with Cooperative Development Environment, because its not repository-based. It just depends on a whole lot of glue-like interfaces to stick tools together." Several unnamed third party CASE and application development tool suppliers, are expected to announce support for Enterprise in September. A graphical user interface builder, codenamed Calypso, will be used to front-end Enterprise. Calypso will also be sold as a separate product and run under Windows and Motif interfaces, Hoffman says.

HELLER QUILTS HAL TO STEER FUJITSU COMPANIES

HaL Computer Systems Inc founder, chairman and chief executive officer, Andy Heller, the ex-IBM RS/6000 architect and all around hellraiser, has left the company to become a consultant to Fujitsu Ltd, HaL's backer. The company said that for the past six months Heller was becoming more and more involved in mapping out the blueprint for the Fujitsu companies - ICL plc, Amdahl Corp and Fujitsu itself - to follow (UX No 445) and handing off day-to-day responsibilities. This just makes it official and lets Heller do what he's good at. HaL declined to comment on suggestions that Fujitsu was dissatisfied with HaL's progress, having failed so far to bring any of its 64-bit Sparc-based machines to market. Heller is not maintaining an office at HaL and is returning to Austin, Texas where he maintains a home. Scott Metcalf is HaL's president and chief operating officer. HaL aims to launch a box next year.

ABACUS MOVING EXECUTOR MAC EMULATOR TO DOS, NEXT, ALPHA

Abacus Research & Development Inc, the Albuquerque, New Mexico start-up that designed Executor, which back in 1991 was the first software-only Apple Macintosh-on-Unix product we ever heard of (UX No 351), says it's now shipping the thing for Motorola Inc-based Next Computer Inc boxes and has managed to corral between 1,000 and 2,000 user sites. The Abacus approach has been to emulate the Motorola 68000 chip that Apple Computer Inc uses calling its stuff a "synthetic CPU." It says it's now able to run Mac programs such as Word, Excel, Quicken, Mac Money and a bunch of games quite well, more than it could 18 months ago. Quirrier programs are still harder. Abacus however claims it's CPU technology is portable and that it currently has a version for NextStep-on-Intel in beta and another for Mac-on-MS-DOS machines in alpha. It is in the MS-DOS market that Abacus hopes to make its fortune beginning in September when it launches Executor/DOS 1.0, a \$99 system it says will run a lot of the "small programs" Apple folks are so fond of. It won't be able to run software like Quark Express or Aldus PageMaker and what it does run will only be monochrome but it's hoping to get Executor/DOS 2.0 to run "everything" including colour. Executor/DOS 1.0 would require a 80386 machine or better. Abacus has other plans as well. In October it plans to unveil Executor running on DEC's Alpha box running under X Windows, figuring that sector of the marketplace is less competitive than others. It will then follow that move with a Sparc port again under X Windows. It says it has no trouble handling both big and little endian hardware and claims its technology, based on "dynamic recompilation," is superior to what Apple itself has. It believes Apple will eventually come around to licensing it. Founder Clifford Matthews is definitely looking for a larger company to cut him a deal. +1 505 766 9115

NOVELLTIES

Novell Inc is currently struggling at various levels in meeting after meeting to formulate a coherent comprehensive strategy for Unix, one that it can both persuade the outside world of as well as get its own people to buy into. It is aiming to unveil said strategy "clearly and articulately" at Unix Expo in New York come September 21-23.

Expectations are that Novell Inc's Desktop Systems Group, currently headed up by vice president and general manager Robert Davis, will become part of the new Unix Systems Group Novell has set up already embracing Unix System Labs, Univel Inc, Connectivity Products Group and NetWare for Unix (UX No 444). The Desktop Unix Group, one of Novell's three strategic business units (not counting USG), is the one that develops and markets products that link Novell's NetWare with Unix including its LAN WorkPlace line and its NetWare File System Gateway.

With Novell Inc now in command, it's also likely that Unix System Labs will be streamlined and stripped of some of its current activities. USL's Tuxedo transaction monitor, C++ and Distributed Manager might be found to fit better with other Novell enterprises. USL's service and support will doubtless be merged with those of Novell.

Novell has recruited Unix tool developer Cygnus Support Inc, Mountain View, California, to help it develop NetWare Loadable Modules (NLMs) for multiple server support. Using GNU tools for NetWare will enable developers to build messaging, database links and telephony applications a lot faster, says Michael Tiemann, Cygnus president. It also means NLMs need only be written once to run on Intel Corp, Hewlett-Packard Co, DEC and Sun Microsystems Inc platforms.

Meanwhile, Univel Inc's vice president of marketing, Arun Taneja, has resigned. Univel brought out Rebel Brown from Unix System Labs as its director of product marketing before Novell lowered the boom and announced it would be folding Univel back into USL. Having Brown, who was director of operating systems marketing at USL, on tap out in California where the new Unix Systems Group will apparently be headquartered will at least give Novell another person familiar with the Unix internals.

PYRAMID MAPS FIVE YEAR PRODUCT PLAN

Pyramid Technology Corp has announced a corporate roadmap for enterprise client/server computing - a general five-year game plan outlining what it hopes to achieve over the period. Pyramid says the brief will help customers meet their long-term computing requirements - and hopefully plan lots of Pyramid acquisitions. The Mountain View, California-based firm says over the next two or three years it'll develop what it calls massively scalable processing technology - multiple parallel systems working together to boost overall performance rather than multiple processors working in parallel. Its DC/OSx implementation of Unix SVR4 MP will get more reliability, availability and serviceability (RAS) features along with a graphical administration system and more automated management capabilities. Next-generation Pyramid machines will include "power-on" service and replacement features for main system resources that the firm hopes will increase on-line RAS. Systems will come with built-in configurable redundancy and visual management tools - clustered systems will be optimised for client/server arrangements. The goal is to double processing power every 12 to 18 months and offer as close to linear performance scalability as possible. New terabyte-class mass storage subsystems will be offered - with 3.5" drives - along with new controller technology and more independent parallel channels. On software, Pyramid says it'll team with leading providers in six markets which are key to its business - financial, telecommunications, transportation/hospitality, healthcare, manufacturing and government. Pyramid sees a future where operating systems and relational databases are increasingly bound together and hardware systems optimised to run them. It says it'll improve facilities integrating legacy systems with new client/server technologies and will offer new one-stop support services. Pyramid has recently introduced ServiceExpert, a continuous monitoring and analysis reporting system for its systems.

GVI HAS X-TO-UNIX CONNECTIVITY TOOL

San Jose, California-based GVI Inc has introduced X/TeleScreen, an X Windows application connectivity tool for Unix networks. X/TeleScreen provides both one-to-one and many-to-many conferencing with standard X Windows applications. According to GVI, the software allows multiple users to interact with different vendor applications such as AutoCAD, CorelDraw, FrameMaker and Wingz simultaneously. Graphics, spreadsheets, documents and drawings can also be updated in real time. X/TeleScreen is available for Sun Microsystems Inc, Silicon Graphics Inc and DEC platforms and it is priced at \$1,000. +1 408 737 1904.

APPLE REORGANISES INTO FIVE DIVISIONS IN WAKE OF BIG LOSS

Announcing figures that stunned Silicon Valley and Wall Street with the low level of profitability - just \$10.6m for the quarter before charges (see below), Apple Computer Inc announced that it had consolidated its operations into five business units as part of a broad restructuring to lower its cost structure. The five business units are the Personal Computer Division, where Ian Diery is appointed executive vice-president, the AppleSoft Division - formerly the Macintosh Software Architecture Division, the Apple Business Systems Division - formerly Enterprise Systems, the Personal Interactive Electronics Division, and Claris Corp. AppleSoft will be responsible for Macintosh operating systems and for developing, acquiring and selling related products. AppleSoft will also oversee licensing of its system software, and according to PC Week sources, Apple has been shopping System 7 around to makers of iAPX-86-based personal computers but has met with little interest. The woes at Apple are causing considerable anguish in Silicon Valley, where the San Jose Mercury News reports that 1,100 locals are among the 2,500 Apple is cutting worldwide. With its results announcement, Apple said it is on track to begin ships of the first Newton product this summer. Apple reported a third quarter net loss of \$188.3m after a \$320.8m restructuring charge, against a profit last time of \$131.7m, on turnover that rose 7.0% to \$1,862.0m. At the nine month mark, net profit fell 80.6% at \$83.9m on turnover that rose 9.7% to \$5,836.2m. Net earnings per share slumped 80% to \$0.70 in the nine months.

HITACHI LICENSES HP SOFTBENCH

Hewlett-Packard Co has Fujitsu Ltd as a licensee for its SoftBench development framework and Hitachi Ltd as a licensee for its OpenView network manager. Now Hitachi has decided to take SoftBench as well. It has licensed the SoftBench Framework, and SoftBench Encapsulator, and it will add them to its mainframe development suite.

SUNSELECT: "WABI DOESN'T NEED WINDOWS"

SunSelect is trying to clear up the "confusion" it says surrounds the status of Wabi, denying reports that it needs pieces of Windows code or an MS-DOS emulator to run Windows applications on Unix (UX No 445). It says that Paradox and PowerPoint, two of the 14 Windows applications Wabi will initially run, do not have DDE or OLE embedded in their code. However, they can "borrow" those features from other Windows applications running along side. If they are the only Windows applications being run, they don't need the DDE or OLE at all. Wabi, currently in beta, does not need Windows, it maintains.

...AS HP AGREES LICENSING TERMS

Hewlett-Packard Co last week reached agreement with Sun Microsystems Inc unit SunSelect on the terms under which it will license the Wabi technology that enables users of Unix systems to run Microsoft Corp's Windows 3.1 applications quickly and without modification just by opening a window on the Unix desktop (UX No 440). SunSelect claims that Wabi is the first software-only product that enables Windows applications to be supported under Unix without performance degradation. Wabi delivers maximum performance for the most popular Windows applications, while UK company Insignia Solutions Ltd's SoftPC provides the highest level of compatibility for a broad range of MS-DOS and Windows applications, HP says. The firm says it doesn't know how it will produce or package Wabi including whether it will offer it together with Windows itself which it admits makes Wabi run better. And it doesn't know how much it'll cost. Insignia sells for \$500, it said. Wabi will be available on all HP's PA-RISC machines but it's still unclear whether it will bundle it. Prices it pays to SunSelect are different bundled and unbundled (UX No 435).

MULTIPOINT SAYS HUNTER CAN DO MORE THAN WABI

Meanwhile, Multipoint Inc, the company formed to salvage Hunter Systems' Windows-on-Unix technology (UX No 443), says it can run all the programs SunSelect's Wabi can and more - and all without any recourse to Windows itself. President Rob Farnum says he is currently in negotiations with several companies, which he would only describe as "non-COSE members," that could see Multipoint acquired or get an equity investment or just a simple licensing arrangement. He expects to have a handle on his direction by September. Separately, it seems, he is talking with application vendors about bundling Multipoint's Windows library with their programs. Farnum claims he can run 27 applications and is using Merisel's best-seller list as his target list.

DEC SEEKS ALLIES ON LOW-POWER ALPHA

Digital Equipment Corp has announced that it is forging alliances with industry leaders to promote the use of the Alpha RISC in mobile and wireless computing, and is opening an Alpha AXP Microprocessor Design Centre in Palo Alto with a satellite centre in Austin, Texas, to design and develop low-power, low-cost microprocessors for mobile and wireless applications. It said Rich Witek, a co-architect of the first Alpha AXP chip, had returned to DEC after a 15 month stint at Apple Computer Inc.

LOGICIEL ARRIVES FROM SINGAPORE WITH CONTRACT SOFTWARE SERVICE - FROM CHINA

Singapore software developer Logiciel Systems Ltd is setting up four subsidiaries, starting with a Farnham, Surrey office in the UK, followed by Frankfurt, Germany, Paris, France and Calgary in Canada. Logiciel offers a contract software development service from a cheap greenfield site in the People's Republic of China. It was founded in 1991, but grew out of Information Engineering Services Pte Ltd, a 15-year old firm with 150 staff. Managing director Lim Koon Sang said this created too many overheads, hence the change in business model. He entered into partnership with Chinese industrial conglomerate Jianbei Enterprises, which provided the backing to set up Logiciel in the enterprise zone of Qingyan, Guangdong, in China. Lim Koon Sang said there was no worry of Jianbei forcing unwanted political policy on Logiciel: "They are as capitalistic as us!" There are now 20 management staff in Singapore, and 128 programmers in China. They will work on both desktop and mid-range environments, including Unix, MS-DOS, and Microsoft Corp's Windows, and with database management systems from Oracle Corp, Informix Software Inc and Ingres Corp. The Calgary office will open on the back of a contract with local firm Pro-C Ltd, worth around \$5m over the next three years, to develop the next version of Pro-C's application development tool.

TANDEM NONSTOP MICROKERNEL IS BASED ON GUARDIAN - NT, TALIGENT

PERSONALITIES TO FEATURE ON HIMALAYAS

Tandem Computers Inc's new NonStop Kernel microkernel, due to run on its forthcoming Mips Technologies Inc-based Himalaya fault-tolerant systems (UX No 445), is *not* derived from the Chorus Systemes SA Chorus/Mix Unix microkernel - which Tandem is also working with - but has been developed out of the Cupertino, California firm's proprietary Guardian operating system. It is "a complete re-write," the company says. Guardian and Unix personalities will run on top of NonStop Kernel. Tandem says the Unix personality is not a version of its NonStop-UX Unix SVR4 implementation which runs on its Integrity systems that has been enhanced to prevent system panics. Rather it is a collection of application programming interfaces, including Posix and other extensions, the Open Software Foundation's Distributed Computing Environment, and a NonStop Tuxedo transaction processing monitor being developed in conjunction with Unix System Labs: Tandem's own Pathway TP monitor will also figure in there, the company says. The Tuxedo and DCE technology will be available by mid-1994. The Unix personality has been designed to allow Unix SVR4 software packages developed on third-party workstations - Tandem does not recommend its systems for application development as such - to run on the new Himalaya machines. As last week's announcement is part of Tandem's the long-term plan to coalesce its two fault tolerant lines, the company says it hopes that all customers will in future target new application development at the Unix personality and not Guardian. Tandem is working alongside USL to enhance the scalability and resilience of the Chorus microkernel for commercial applications, it says. Tandem has already said it will offer Microsoft Corp Windows NT on its Integrity line sometime next year - it now says it'll likely offer an NT personality on the Himalayas along with others too, like the IBM Corp/Apple Computer Inc object-oriented Taligent system, formerly known as Pink. The Himalayas - K100, K1000 and K10000 - use Mips R3000, R3000 and R4400 RISCs respectively and are priced at from \$25,000 at the low-end and \$340,000 at the top. The massively parallel K10000 - Tandem's largest ever machine - uses from 16 to 4,080 150MHz Mips R4400 RISCs. TorusNet nodes, with 16 CPUs, can be linked together to produce a 224-node TorusNet Domain. String those together for multi-domains with up to 4,080. The 16-way system has 64 I/O channels, a 4,080 processor monster will come with 16,320. Maximum main memory supported goes from 4,096Mb to 1,044Gb - 12Tb to 30360Tb disk.

TRADE COMMISSION NO COMMENT ON MICROSOFT; CASE NOT CLOSED

The US Federal Trade Commission ended its closed-door meeting late Wednesday without making any announcement on how it dealt with the investigation of Microsoft Corp - but according to *Associated Press*, the five-strong panel was once again deadlocked 2-2 with one recused. Microsoft Corp acknowledged that this did not mean that the Trade Commission had closed its 37-month nonpublic investigation of the company. Novell Inc said it was disappointed with the apparent decision not to issue an administrative complaint against Microsoft. "We hope the Justice Department will provide the guidance this industry needs," the company said.

PANIC BUYING CAUSES SPOT MEMORY PRICES TO DOUBLE

The anticipated panic-induced artificial shortages of memory chips arrived with a vengeance last week as the heavy news media picked up on the story and found analysts and distributors reported that spot prices for the parts have risen at least 30% and in some cases doubled. The panic is not immediately affecting major manufacturers, because they have large inventories, but small companies, which make only a few dozen machines daily, are very exposed. According to *Associated Press*, five distributors quoted prices of between \$65 and \$72 for a 1M-byte module that cost \$33 early last week. The cause of the panic is of course that explosion that wiped out the Sumitomo Chemical Co epoxy resin plant that had been supplying 60% of the world's demand for the epoxy used in chip encapsulation. The reasons the price rises look like panic rather than genuine shortage are that the other suppliers of the epoxy were running at well below capacity, and manufacturers will generally have vats of the stuff in their warehouses. According to the *Wall Street Journal*, chip makers are playing down the impact of the Sumitomo explosion, but have begun studying their options should resin supplies dwindle. Motorola Inc and Advanced Micro Devices Inc have each assembled task forces to seek alternate ways to encapsulate chips and Texas Instruments Inc says it doesn't have enough information to understand the long-term issue. In the medium term, the panic is likely to lead to a faster move to 16M-bit parts in machines capable of taking them, since only as much epoxy is needed to encapsulate a 16M as is needed for a 4M.

SYBASE AFTER NEW MULTIMEDIA APPLICATIONS WITH OBJECT-ORIENTED GAINMOMENTUM 2.0

By Cath Everett

Sybase Inc reckons version 2.0 Gain Technology Inc's object-oriented application development environment will enable it to open up new markets for multimedia technology. According to UK product marketing manager, Phil Robinson, GainMomentum 2.0 is one of the few current offerings that provides users with a tool set integrating text, images, video, sound, and transaction data from SQL databases. In most other cases, he says, vendors have to glue different tools together.

Marketing director of Sybase UK John Spiers explains, "our vision for GainMomentum is to enable the transition from the piecemeal approach to communications - paper-based, video cassette-based, and electronic forms-based - to integrated, interactive computer-based information delivery systems". Moreover, while the majority of alternative products are geared towards single users, GainMomentum's client-server architecture means it is "ideal for workgroup computing" and can be used by multiple developers working together. The product comprises graphical front end tools bundled with Menlo Park, California-based Objectivity Inc's object database to which Gain has licensing rights and for which users don't have to pay extra.

Multimedia objects

This enables them to "create, edit and link all forms of multimedia objects". The front end tools were created using the Gain extension language - GEL is an object-oriented fourth generation language-based scripting language with multimedia extensions. The fact that GEL is a scripting language means developers can test and change the script of their applications on-line, with the help of interactive debugging tools. This speeds up development time because there is no need to recompile, link and debug these applications. Developers can also use GEL to develop new tools and objects or enhance and customise existing ones. Moreover, says pre-sales consultant Keiran Kilmartin, GainMomentum 2.0 is "unique" in providing "visual tools" that integrate a whole range of data sources. The product acts as a "layer over the top of lots of different databases". For starters, Sybase has integrated its OpenClient application programming interface with the GainMomentum product. This enables developers to access and manipulate business information from such databases as Borland International Inc's dBase, or use such third party applications as Microsoft Corp's Excel. If users then install Sybase's Open Server application programming interface on their server, they can use non-relational information sources, such as external data feeds, as well as electronic mail and electronic data interchange facilities. And "to access the Sybase world" of relational databases, developers can buy an off-the-shelf OmniSequel gateway. This enables them to access and manipulate transaction data held in the databases of such vendors as Oracle Corp transparently. Open Gateway will, conversely, enable them to use databases from such suppliers as Ingres Corp. Also, because GEL includes extensions to link C and C++ libraries to GainMomentum applications dynamically at run-time, customers can take advantage of C and C++ applications.

Take-off

"By making it easier to interact with business information", Sybase hopes that GainMomentum 2.0 applications will "extend the reach of client-server systems to new audiences and increase end-user productivity". But Kilmartin reckons it is the intuitive nature of these applications, with their simple point-and click interfaces, that will really make them take off. While he admits "we need to define the market" because "we are not solving problems today", he attests that Sybase is not targetting the mainstream multimedia market, which comprises mainly games and training packages. The group is rather, "presenting users with new opportunities" and, targetting "the next generation of users - the elective user". This elective user is looking at ways of making his business more productive and of speeding up communications - internally, with customers, and with suppliers. The client-server architecture of GainMomentum, Kilmartin says, enables users to interact with applications, such as interactive electronic catalogues, on-line. Sybase, he added, has already signed up some "large customers", which, although unnamed, are found mainly in telecommunications - with such applications as network diagnostics - and retail. Other potential uses include decision support systems, electronic information kiosks and command and control systems. The group is also targetting such markets as finance, particularly insurance firms - "the automation of insurance claims would give them the leading edge"; value-added resellers; and those companies "already struggling to build multimedia applications of their own in lower level languages such as C++ or Smalltalk. For example, Logica". Such firms, Kilmartin said, could use GainMomentum to create tools for their own customers and save on research and development costs.

GainMomentum 2.0 is available now in the UK on Sun Microsystems Inc's Sparcsystems and under IBM Corp's AIX and Hewlett-Packard Co's HP-UX environments. It is currently in beta testing on Digital Equipment Corp's Alpha machines, but a Microsoft Corp's Windows NT version should be released by the end of 1993. Existing GainMomentum customers will receive their upgrades free if they have a maintenance agreement, but everyone else will have to pay £800 for a client version, £8,000 for a developers kit.

GATES NEEDS "BRONZING" SAYS McNEALY

Sun Microsystems Inc chief Scott McNealy was holding forth on the state of, and prospects for, the North American information technology industry at Comdex/Canada last week. He thinks proprietary technology should be replaced and says "the computer industry is not opening up. It's becoming tragically closed. Capitalism requires open interfaces." Cranking the mill, McNealy claims Sun "is spearheading the entire Unix community." He said Microsoft Corp's proprietary interfaces are akin to a person inventing a new language, registering it with the government and levying a word tax. Sun, meanwhile, is pushing its Public Windows Interface initiative. "Intel owns the hardware alphabet and Novell is on its way to owning the network alphabet," he said, but admitted that if Sun were as large as Microsoft, it would also seek to close its technologies to the public and charge royalties for their use. "I think people will look back on the 1980s and 1990s and say that Intel and Microsoft stifled innovation," he said. But monopolists with proprietary technology should not be considered wrong or criminal, McNealy said. He compared them to greyhounds chasing a motorised rabbit in a dog race. "If one of the dogs is fast enough to catch the bunny, they stop the race and take the bunny away from the dog," he told reporters. "Then they bronze the dog and put it up on a pedestal in front of the track with 'superdog' or something underneath. That's what should happen to Bill Gates. He ought to be bronzed," McNealy added. Meanwhile, he believes three hardware architectures - Intel's Pentium, IBM/Motorola PowerPC and Sun's Sparc - and three operating systems - Microsoft Windows NT, IBM OS/2, and Sun Solaris - will survive into the future, with three object models becoming the bases of an object-oriented computing world of the future. IBM/Apple's Taligent, Microsoft's technology and Object Management Group standard which Sun has implemented as Distributed Objects Everywhere.

OMRON DATA GENERAL MULTI THREAD X WINDOWS TECHNOLOGY TO BE INCLUDED IN X11R6

Omron Corp's new X Windows software, Multi Thread X-Server, which it claims will allow a Unix workstation to act as a parallel processor, is to be included with the next version of X Windows, X11R6 (UX No 442). It is the first time a Japanese firm's software will be used in X Windows. Multi Thread X-Server was jointly developed by its Omron Data General unit and the Massachusetts Institute of Technology. The software allocates a multiple number of jobs to each CPU to create a parallel processing feature on Unix workstations. The firm says workstations will be able to process faster and should be able to do scientific calculations and other spreadsheet work on the same workstation simultaneously. X11R6 is due early next year. Omron + 81 3 3436 7006.

LOTUS TO INTEGRATE NOTES WITH STAFFWARE

Cambridge, Massachusetts-based Lotus Development Corp has signed a worldwide joint development agreement with UK firm Staffware, a division of FCMC plc, to integrate its client/server workgroup software, Lotus Notes, with Staffware's workflow automation software. The companies are currently developing a set of application programming interfaces to enable users to share common data and pass messages between the two environments; invoke Notes from Staffware and vice versa; and use Notes as the Staffware workgroup form where required. The APIs will also support Microsoft Corp's Dynamic Data Exchange specifications. The two companies will jointly market and support the developers kits via Staffware's worldwide reseller network and through Lotus' international sales channels. API developers kits will be available for Microsoft Corp Windows, character-based terminals and X Terminals from next month. Windows NT will be supported as a client. Its due next year. Server versions for Unix platforms will be released in September.

OPEN BOOK HAS OBJECT SQL INTERFACE FOR CLIENT/SERVER

Lexington, Massachusetts-based OpenBook Software Inc has introduced an object-oriented SQL data access interface for client/server environments. The software, called OpenBook, like the company, sits between the graphical user interface and the data. According to OpenBook president, Tony Gianenelli, it describes data in English terms - because its built around an object-oriented architecture - making it easier for end-users to understand the information. Users can also customise business related labels such as customer and purchase orders, to make data easier to understand at the user interface. Other OpenBook features include a Hyperdata Navigator, which lets end-users dynamically search for detailed summaries and unrelated query lists without manually generating SQL statements; and derived information capabilities, which search for related pieces of information dynamically. It supports Sybase's SQL Server, Oracle, DB/2 and Microsoft Corp's Windows NT implementation of SQL Server. Interfaces to Informix's database are currently being developed. OpenBook is available now on a variety of Unix platforms. +1 617 860 8300.

NEURON DATA RELEASES THIRD SMART ELEMENT

Neuron Data Corp, known for its graphical user interface (GUI) building tools and knowledge-based systems, last week announced a new entry in the client/server tools arena: Smart Elements, a cross-platform application development environment that combines object-oriented structures and business rules capability with GUI design and script facilities for business software developers. Smart Elements is the third Neuron Data product to integrate the company's new Elements Architecture, an integrated set of application development tool modules and integration layers announced last month (UX No 443). The Elements Architecture already includes Open Interface Elements and C/S Elements. All three products are targeted at the client/server tools marketplace, estimated to grow to \$1.6 billion in revenue by 1995. Smart Elements marries an enhanced version of the company's Nexpert Object knowledge-based application development tool to a new extensible script language for rapid application development and the GUI design facility from its Open Interface tool. The product's objects module is supposed to enable developers to simplify the modeling of complex problems through a set of object-oriented organising principles. The objects module features enhanced message-passing capabilities for better code re-usability. Smart Elements applications are portable across different flavours of Unix with Motif and Open Look, Windows and NT, OS/2 Presentation Manager and Macintosh also supported. The company says Smart Elements supports application programming interfaces from almost any source. Shipping now, it's priced at \$5,000 - £5,000 - for a developer's license. Initial platforms include SunOS, Solaris, AIX, HP-UX, Silicon Graphics and Macintosh.

CGI ANNOUNCES CLIENT/SERVER CASE TOOL

CGI-L3 Ltd, Crowthorne, Berkshire, has announced PAC/CS, a graphical object-oriented CASE tool for client/server environments. PAC/CS comprises an object-oriented information model, which enables user to prototype and generate code automatically. It provides database access, either through a SQL requester or via a server component generated by PACBench, a sister CGI module. Support for Hewlett-Packard Co's SoftBench CASE environment is also provided. PAC/CS runs on Microsoft Windows, IBM OS/2 and Motif as clients. Server versions for mainframes, Unix networks and micro servers will be available next year.

UNIR AND AT&T SETTLE OBJECT QUARREL

Unir Technology Inc, the Naperville, Illinois company AT&T licensed to represent Calico, the Bell Labs-developed object-oriented development environment, and the Conix run-time system, has just emerged from a three-month dispute with AT&T. The contretemps caused Unir to unilaterally terminate its agreements with AT&T over what it said were attempts by Bell Labs personnel to sabotage its efforts to commercialise the software. Unir has resumed shipping Calico evaluation kits, which it calls C+@ (say cat) to OEMs and ISVs at a new lower price of \$400. Unir, now reorganised into Unir Systems to house its traditional consulting and integration business and Unir Technology to handle C+@, has a new arrangement with AT&T. AT&T will no longer embellish Calico for Unir and Unir owns all of the modifications it makes to the software. Unir believes C+@ will eventually challenge Cairo, Nextstep and Taligent.

SIEMENS UTM TRANSACTION PROCESSING MONITOR UP ON HP, IBM UNIX...

Siemens Nixdorf Informationssysteme AG is now offering version 2.1 of its UTM Universal Transaction Monitor running on its own RM Unix systems on IBM Corp's RS/6000 line and on Hewlett-Packard Co's HP 9000 systems, with further ports to follow. SNI claims 800 installations of its on-line transaction processing monitor in Europe. It says UTM 2.1 provides distributed transaction processing in conjunction with its own, and IBM Corp mainframe environments, including CICS, IMS/DC and IMS/DB using the Transit-LU0 protocol. UTM 2.1 allows several applications to run in parallel over distributed systems and includes the X/Open Co X/A interface for database connection. UTM now supports the Oracle7 database.

..NEW RM400 MIPS BOX

And SNI has also launched a new entry-level RM400 Model 10 system, rated at 56.46 SPECint92. Based upon the Mips Technologies Inc R4000SC RISC - which has 512Kb secondary cache - the machine comes with up to 256Mb RAM, 15.6Gb disk, a 525Mb tape streamer and costs from £20,000.

D&B ADDS FINANCIAL STREAM

As expected (UX No 433), Dun & Bradstreet Software Inc, Atlanta, Georgia, has introduced its second SmartStream client/server application, Financial Stream, for invoicing, purchase orders and other financial transactions. The module based on the firm's workflow automation technology lets users route invoices to electronic in-trays across local and wide area networks, where they're automatically checked against a set of co-defined classes customised by managers. The invoices are then either passed onto other members of staff, or queried and tagged for attention. Financial Stream is available from September on Hewlett-Packard Co and Data General Corp Unix platforms. Support for Windows NT is scheduled for the first quarter of 1994. SmartStream decision support facilities are also available from next month on HP-UX, DG/UX and IBM's OS/2 operating systems, the firm says. Other SmartStream applications suites, including HR Stream, Distribution Stream and Manufacturing Stream, will be released next year.

BRIDGE BUILDER TAKES ON CONTEXTURE OBJECT DEVELOPMENT ENVIRONMENT

Unix System Labs' ex-vice president of strategic planning Jim Daniel, is now at Massachusetts start-up Bridge Builder Technologies Inc doing the same kind of thing as vice president, strategic relations and business development. The new concern acquired its advanced object-oriented development environment from Contexture and is putting more money into research and development and sales and marketing. The founder of BIOS house Phoenix Technologies Inc Ted Joseph is there as chief executive officer. Contexture on its own reared an installed base of 35 customers and 1,000 seats including a bunch of prestigious accounts on the Paris trading floor in France. The company is currently working on a new release. Daniel thinks it can be hot because it's so easy to use.

AURUM OFFERS TO SERVICETRAK CUSTOMERS

Aurum Software has a new customer service application ServiceTrak to automate the field service process, a component of its client/server-based Customer Resource Planning System and complement to SupportTrak which automates the call centre. ServiceTrak manages dispatch, escalation, problem resolution, security and contracts. Based on a portable 4GL the system, aimed at Fortune 500 companies, is modifiable. The new module is available this quarter priced from \$35,000 for 10 users to over \$350,000 for 200 users.

SPLICE SOFTWARE DEVELOPMENT TOOL FOR COMMERCIAL USERS

Metrasystems is marketing a software development tool called Splice that was originally created for the US military and NASA applications and is now available commercially. It is meant to develop or convert applications written in C to operate in a network environment. The company says a C programmer can convert C function calls and local database operations to network functions. Splice reportedly permits different computers and software systems such as SCO Unix, Interactive Unix, AIX, Ultrix, HP-UX and SunOS to interoperate in a common environment by performing all data and format conversions. +1 215 247 7347

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The weekly information newsletter for the UNIX™ community worldwide

IDG World Expo is hosting **Unix Expo Oslo** on September 14-16. Last year's event reportedly attracted 19,000. This year it's supposed to be held in conjunction with **CAD/DAM Expo Oslo**, expected to attract 10,000 attendees. Then in December, the **Japan Unix Society** is sponsoring **Unix Fair Tokyo** on the 8th through the 10th. 40,000 attendees and 110 exhibitors are expected.

Hitachi Ltd is going to make **SuperSparc** chips, according to *Electronic Engineering Times*, quoting an announcement by **Sun Microsystems Inc** in Japan. **Texas Instruments Inc** has had the franchise to itself up until now. Hitachi is supposed to make higher speed versions of the widgets anticipated on Sun's roadmap.

Sun Microsystems Inc's chip-flogging **Sparc Business Unit**, the folks who just cut the NT-on-Sparc deal with Intergraph Corp, has been given more organisational recognition and made an independent business unit under Bob Graham.

Roland Corp and **Nihon Silicon Graphics** are cooperating on virtual reality in Japan, aiming to produce a prototype sound and image virtual reality system ready by October and an imaging system finished next year. Roland has shown its surround sound system linked with an SGI Indigo and a MIDI audio data interface.

Motorola Inc is working on a low-power version of 68040 called the 68040V that will sample in October and include all the features of the standard 68040 except floating point. It'll operate at 3.3V, 1.5W and support clock rates up to 33MHz.

Seattle, Washington-based **Walker, Richer & Quinn Inc** is due to ship **Reflection X** its new 32-bit X servers for personal computers from the beginning of September. **Reflection X** users can access X windows systems from within Microsoft Corp Windows - prices start at \$470 or \$600 bundled with WRQ's TCP/IP stack and **Reflection 2** for Windows, a VT320 terminal emulator. Both product packages come with FTP file transfer. +1 206 726 7219.

German Unix software house **iXOS Software GmbH**, Munich, is to supply versions of **Unix System Labs' Tuxedo** transaction processing monitor on **SunSoft Inc Solaris 2.x** and **Siemens Nixdorf Informationssysteme AG RM400** and **RM600** workstations. Other ports will follow, it says. Prices range from \$10,000 for a four-user development licence to \$4,000 for an eight-user runtime system to \$200 for a single seat client licence. +49 89 46 0050.

IBM Corp has denied that its mainframe Unix implementation - **AIX/ESA** - which has around 200 users (most experimental developers), is being killed off (UX No 443). However **Wladasky Burger**, general manager of the firm's parallel computing business says there are now fewer developers working on the high-end Unix variant, and that IBM now considers the system a niche product for the scientific community. IBM was talking about **AIX/ESA** as far back as September 1991, and introduced the product in the second half of 1992, positioning it as the open systems alternative for IBM mainframe users.

Kaleida Labs Inc has appointed 20-year IBM Corp veteran **Michael Braun** as president and chief executive following the resignation of **Nat Goldhaber**, who reportedly quit after IBM and Apple Computer Inc, co-owner of Kaleida, refused to give him stock options in the company.

Talarian Corp, author of **RTworks**, has appointed **IBM Corp** veteran **Donald Rich** president and chief executive.

NEC Corp says it will offer parallel processors from **Thinking Machines Corp** and **Intel Corp** to the Japanese government in its bids for new public orders later this year: as part of its most recent fiscal stimulus package, the government set aside funds to procure 11 supercomputers - of which four or five are to be parallel, in the year to March 31; NEC will where possible push its own **Senju-3** parallel processing machines, which is rated at 12.8 GFLOPS, but **Thinking Machines** and **Intel** machines are rated at 1 TFLOPS and 350 GFLOPS respectively.

SunSoft Inc has officially announced the availability of a **Motif** toolkit for its **Solaris 2.2** environment - **IXI Ltd's Motif 1.2.2** offering. Prices start at \$300 - internationalised European and Japanese versions will be available by the end of the year. A **Motif** toolkit for **Solaris x86** will be available in 90 days, the company says.

NeXT Computer Inc last week brought in **Dominique Trempont** as chief financial officer and vice president of general and administrative operations. He had been director of financial administration for **Raychem Corporation's Electronics Group**, a \$450m business. While at Raychem he was instrumental in the financial turnaround of several of the company's divisions and helped reposition the Group from defence to commercial markets.

Commenting on last week's story that **Sun Microsystems Inc** ships more units than **Data General Corp's** entire installed Unix base every month, the **AViiON**-builder observes that most of its 20,000 systems shipped are servers, whereas most of Sun's sales are workstations. Fair point, but the fact to note is that **DG** is the sole surviving mainstream system manufacturer supporting the **Motorola Inc 88000 RISC** series - the figures were intended to point out the increasing marginality - and some would say unimportance - of the 88000 when system shipments are taken into consideration.

Following the apparent desires of its customers, **Digital Equipment Corp's** commitment to the **COSE** initiative will be measured by the ability of **COSE** to deliver anything useful that customers will want. Sources say **DEC** customers are asking it whether **COSE** is really relevant and why should they bother with it at all?

Kurt Friedrich, general manager of **Hewlett-Packard Co's** open systems software division, responsible for integrating **HP-UX** with **OSF/1**, is believed to have departed for **Tandem Computers Inc**. Long-time Unix aficionado, Friedrich joined HP from DEC in February 1992 where he was vice president and group engineering manager for that company's open systems group.

As expected (UX No 444), **Apple Computer Inc** said the first version of **Newton** would be launched on August 2 at **MacWorld** in Boston. The first **Newton**, called the **Messagepad**, will be available in three configurations, along with some new **Quadra** desktop Macintoshes, *Macweek* reports. The three are a base one, one with a modem; and one with a modem and the **Newton Connection Pro** kit with software and cable for interchanging data between the **Messagepad** and a **Macintosh** or **Windows** personal computer. The paper reckons that street prices will be \$700, \$800 and \$900, based on dealer prices with a 10% mark-up on top.

GroupWare '93 Conference & Exhibition will be held August 9-13 at the **San Jose Convention Center** in **Silicon Valley**.

Amdahl Corp reported a horrific plunge of one third in second quarter sales last week: it reported a second quarter net loss of \$23.7m against a profit last time of \$16.9m on turnover that slumped 33.1% at \$463.2m. The mid-term net loss was \$263.4m after a net restructuring charge of \$177.4m, against a profit last time of \$21.3m, on turnover that fell 29.1% to \$843.9m.

ICL Plc would never dream of hiding its light in such an insecure place as under a bushel unless the bushel was safely locked in a cupboard in the corner of a strong-room... you remember those rather clever **CAFS**-derived database management system hardware accelerators that **ICL** has come up with? Last we heard, the one for **Ingres** was out, and the one for **Informix** had just arrived: we asked last week when we might see the next one, and **ICL** told us airily that it now had them for **Oracle**, **Progress** and **Adabas**, and that **Sybase** would be ready by year-end...

Fujitsu Ltd owns 80% of **ICL Plc**, who owns the other 20? In case you'd forgotten, the answer is **Northern Telecom Ltd**, and with the Canadian taking \$930m in charges last week, which knocks a nasty 25% off its book value, and raising £600m with the sale of its undersea cables business to **Alcatel NV**, it might well be assumed that it would like to unlock the cash tied up in **ICL**; **Fujitsu** could also do with any cash it can raise just now, all of which suggests that the partners will look again at the timing of the planned flotation of a substantial minority of the shares of **ICL** on the **London Stock Exchange**, and seriously consider applying the fast-forward to it.

No-one at **Apple Computer Inc** high enough up to be in the know could be found last week to comment on the suggestion from an authoritative source close to the company that among the many projects that have gone onto the back burner in the bottom-to-top shake-up of the company is at least the initial **PowerPC**-based **Macintosh**, which had been set for late this year or early next. If the thing has been junked, the reason would likely be that the machine would only fit into the mid-range of the **Macintosh** line, a slot perfectly well filled by **68030**-based machines. There is no reason for **Apple** to rush to **PowerPC**, because the **68060** is on the way from **Motorola Inc**, and with faster versions of the **68040** could keep **Mac** users happy for years.

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UNIFIED UNIX IS ON NOVELL'S AGENDA

Although it has now digested its Unix System Labs acquisition with the formation of the new Unix Systems Group (UX No 444), Novell Inc executives are quickly finding that there are plenty of other courses on the Unix menu. Indeed the company's attention is now being focused on bringing outstanding matters - like how to unify Unix and work with Unix International - to book. Owning the product is simply not enough in this quarter of the industry.

Unix International volunteers itself - seeks a future, new relationship

Novell has already made it clear that it has little use for all the consortia created during the Unix wars (UX No 444) and "does not want business dependencies on external organisations," such as Unix International. It was against this background that Unix Systems Group chief Kanwal Rekhi attended an extraordinary meeting of UI's executive committee the week before last and challenged UI to come up with a plan for a new relationship between their organisations - a meeting that also spelt the end for UI as presently constituted - see opposite. Novell, which is said to value the group as source of feedback from vendors and users alike, has given UI until the beginning of the fourth quarter to put an acceptable plan together: to prove that despite a fairly speckled history, it can finally cut the mustard (UX No 440). UI, however, has already stepped smartly forward into the breach. Although it hasn't been specifically assigned the task by Novell, the planned role that UI has in mind for itself includes executing and administering a range of initiatives that it believes are necessary to achieve Novell's goal of simplifying and unifying Unix. UI's plan will include recommendations for converging the variety of Unix flavours around a set of common, basic interface specifications, and the establishment of a new branding mechanism that will lead to as many Unix implementations as possible - and they currently go under a vast number of vendor-specific product names - being explicitly branded as conformant at some basic level, with the Novell technology. UI believes it can oversee the creation of a new set of application programming interfaces (APIs) that'll enable vendors to offer users and independent software vendors (ISVs) greater Unix compatibility, and at the same time allow them to compete more vigourously on implementation. It envisages APIs for the graphical user interface - where despite the efforts of the COSE firms, it thinks there is a lot more work to be done - for networking and some further down at the operating system level. Quite how this sits alongside the objectives of the COSE initiative, also focused on these (and other) technology areas - and in which USL and Univel are both involved - is unclear, although UI has well-documented reservations about the ability of COSE to deliver on all of its goals (UX No 439). Perhaps re-inforcing UI's case, speculation in the US press last week suggested that COSE may be considering cutting back on a number its goals. UI thinks the APIs could eventually be meshed into some form of overall Unix API. UI envisages being responsible for the administration and evolution of these APIs via new development groups that'll be established under its new structure.

Novell looking for agreement "as quickly as possible"

Novell wants to resolve Unix's needless incompatibilities - indeed it believes pursuing any other strategy would be "suicidal" - but whether UI's plan can fulfill that role, given the plethora of other industry initiatives and efforts currently underway, won't become clear until Novell puts the plan under scrutiny. UI's objectives appear all the more challenging given that it hasn't managed to achieve much along these lines under its own steam, although its hand is now being forced by Novell's desire for a new form of relationship. Novell, meanwhile, is adamant that initiatives leading to greater unity in the Unix industry should "happen as quickly as possible." Although UI's plan is due for further discussion over the next couple of months - and a relationship, if agreed, will be enshrined in a contractual document - UI president Peter Cunningham believes that, for example, a mechanism for branding could be in place by the end of this year or the beginning of next. Other components of UI's plan for the relationship with Novell include things more familiar to it, such as establishing an early access programme to Unix System Group (USG) technologies for vendors and ISVs and providing input to USG on licensing and conformance issues for the branding scheme. It remains unclear - and has yet to be decided - whether branding will mean Unix, Unix SVR4.2, UnixWare or some other stamp. For Novell, the main requirement is that a level of branding should embrace as many suppliers as possible. UI says it'll detail a system software roadmap based on these initiatives if they eventually form the basis of a new relationship with Novell.

MORE LAYOFFS AS UI CLOSES EUROPE AND PACIFIC RIM

The deepest cut of Unix International's plan for a new relationship with Novell Inc - see opposite - and the re-focused spending plans of its sponsors, will see the organisation pared back to a 20-strong unit based at its Parsippany, New Jersey headquarters, it emerged last week. With Unix now very much inside Novell's marketing bag, UI can find no place for its European or Pacific Rim operations any longer and will close them next month with the loss of the eight employees retained there following initial cutbacks revealed in May (UX No 438). UI maintains, however, that it has secured enough funding from its members to see it through next year and beyond in its much-reduced form. It hopes that this unit will be the right kind of size to be able to administer the terms of a planned relationship with new Unix owner, Novell Inc. UI argues that it has fulfilled its original purpose - establishing Unix SVR4 in the market and taking USL to a point where it was commercial enough to get acquired. UI president, Peter Cunningham, argues that vendors don't want to expend resources on Unix system integration and development any longer, tasks that were traditionally focused through UI to USL. He says when Novell's plan to acquire USL at the end of last year emerged, vendors decided these kinds of responsibilities should henceforth rest with Novell, freeing them to concentrate on developing value-added services. UI intends to concentrate all development and marketing resources required under the terms of any new charter with Novell at its US base and will rely on an extended e-mail system to get input from its membership outside of the US. It will appoint regional managers who will tour Europe and the Pacific Rim areas each quarter. If it fails to win Novell's backing for the kind of future relationship it envisages, then its continued existence can surely no longer be guaranteed.

INTEL AND UNISYS TO CEMENT NEW UNIX-ON-PENTIUM ALLIANCE

Intel Corp and Unisys Corp are this week expected to outline the bones of a new strategic alliance that will lead to the creation of a new breed of commercial systems which are between 12 and 18 months away. As well as the planned boxes - parallel processors combining multiple CPUs - the two will also team on development of code for the Pentium architecture. The firms stress that their plans do not amount to a product announcement as such, but are keen to talk-up the fact that it will be Intel's first agreement of this kind with a hardware vendor and say that it is specifically a Unix initiative. The alliance follows on from an existing relationship which saw Unisys announce a range of Pentium-ready systems earlier this year (UX Nos 420, 436).

IBM RS/6000 ROUNDUP

New RS/6000 34H uses 41.6MHz RISC

As expected (UX No 444), IBM Corp has released another RS/6000 machine, the 34H. Available in server and workstation models, the machine uses a 41.6MHz processor with 16Mb memory expandable to 256Mb, and 400Mb of internal disk, expandable to 4Gb. Featuring an improved cache architecture, the Instruction Cache has been expanded to 34Kb from 8Kb. The system also sports 80Mbytes-per-second Micro Channel, integrated SCSI-1 interface and integrated Ethernet device. It's \$11,900 from August 6.

AIX XStation Manager/6000 1.4.1

IBM has launched its AIX XStation Manager/6000 version 1.4.1, a program providing configuration update support for the Xstation 150 machine. The program supports Models 120, 130 and 150 of the Xstation under AIXWindows Environment/6000 under the Xwindows X11.4 or 5 environment. The new version enables XStation 150 machines to be centrally configured with access to fonts and the Xserver file list provided. Users of the new product no longer need EPROM changes to update booting programs or to add code to support new displays or routers. Instead, it uses the Xstation 150's Flash memory to update the code; there's no charge for the release.

AIXwindows Interface Composer/6000 1.2

Developers building graphical user interfaces for applications using OSF/Motif 1.2 might be interested in IBM AIXwindows Interface Composer/6000 version 1.2. This development tool enables developers to manipulate interface components including buttons and panels. Replacing version 1.1.1, the program enables the developer to link in code and test the behaviour of the interface using a built-in C interpreter. New features enable users to generate C++ code, work within version 1.2 of Motif, support custom widgets and colour icons, and integrate more effectively with IBM's Workbench/6000 software engineering environment.

CICS for AIX on RISC SYSTEM/6000

IBM has released its CICS/6000 On-Line Transaction Processing system for AIX. The system, which IBM is aiming especially at the distributed transaction processing market, provides support for CICS transactions needing relational database access. These databases must support the X/Open XA interface if they are to support SQL calls within the body of an application. Databases supporting CICS/6000 include Informix OnLine 5.01, TP/XA, ESQL for Cobol, Oracle V7.0.13, XA Library, Pro*C and Pro*Cobol. Ingres Corp and Sybase Corp hope to have such product later this year. The AIX Client version of CICS/6000 will let non-CICS applications communicate with transactions under CICS/6000. It does this using an Application Programming Interface called the External Presentation Interface also supported by the OS/2 2.0 version of CICS.

AIX Distributed Computing Environment product family 1.2

The AIX Distributed Computing Environment Product family has acquired two more members: distributed file services and the IBM AIX DCE Threads/6000. Current products have also been enhanced. The family now supports the Distributed File Services found in version 1.0.2 of the Open Software Foundation's Distributed Computing Environment. These services are what enables distributed users to share data in a distributed computing environment. The Threads/6000 product enables developers to use the parallelism of a distributed computing environment, utilising the library of threads to make distributed computers perform parts of a task simultaneously, IBM says. Other DCE tools have been enhanced with the inclusion of the X/Open Directory Service, Object Management Library and the connection-oriented Remote Procedure Call.

AIX Performance Toolbox/6000, AIDE/6000

Intuitive network and machine assessment is the aim of AIX Performance Toolbox/6000 - PTX/6000 and AIX Performance Aide/6000, PAIDE/6000, two programs providing graphical views of the performance of a local or networked RS/6000 machine. Operating in conjunction with other tools, PTX/6000, a superset of PAIDE/6000, can be used on a stand-alone machine or on a network using the Internet protocol. Enhancing the information gained from a Simple Network management Protocol network manager, the system provides a real-time view on a node-by-node basis. Users wanting to back-end their own applications into the PTX/6000 service can use the provided Application Programming Interface to create graphical information representation. The PAIDE/6000 system provides local AIX performance information. It can simultaneously service multiple data requests from local or remote applications, and provides SNMP information to the agent on the local node. The system also handles alert processing. PTX/6000 is \$5,000, PAIDE/6000 system costs \$350.

RS/6000 Controllers and Adaptors

IBM has rolled out four adaptor and controllers for the RS/6000 range. The RS/6000 SCSI-2 Differential High Performance External I/O Controller allows for SCSI-2 performance - 10Mbytes-per-second synchronous data transfer and command tag queuing at longer distances of up to 60 feet. It supports up to 96Gb of user-available protected storage with two 7135 RAIDiant arrays. It costs \$1,500. The IBM HIPPI High-Performance Parallel Interface, Micro Channel adaptor set enables RS/6000 machines to connect into supercomputers, disk arrays, tape subsystems and other RS/6000s. It costs \$17,500. The Multi-Protocol Communications Adaptor, MP/A, provides a one-port synchronous EIA-232D connection supporting speeds up to 19.2Kbps. It costs \$450. The High Performance Disk Drive Subsystems Adaptor enables users to connect up to four IBM 9333 High Performance Disk Subsystems to an RS/6000 machine at 40M-bytes or 80M-bytes per second depending on subsystem model. Each of these disk systems can store up to 8Gb, giving the adaptor a 32Gb maximum storage. It costs \$4,000. The first three adaptors will be available on July 30, the latter on August 27.

Works with Proginet on OSI support

IBM's IBM Networking Systems is working with Uniondale, New York-based Proginet Corp to give Open Systems Interconnection support to the MultiProtocol Transport Networking architecture, as promised earlier. The architecture is designed to make applications independent of the transport layer; currently, only TCP/IP and SNA are supported. Proginet will use the MultiProtocol Transport Networking extension to enable its Host.FTAM Open Systems Interconnection product line to run over SNA without requiring any additional hardware, working with the IBM AnyNet family. The companies claim there is no performance loss. FTAM will be available during the first half of next year. According to IBM, the development will bear fruit in other off-the-shelf, commercially available MultiProtocol Transport Networking products, as well as enabling network applications based on OSI to be run over Advanced Peer-to-Peer Networking. Meanwhile, IBM is pushing for acceptance of MultiProtocol Transport Networking by standards bodies. The company submitted it to the XNET workgroup of X/Open Co Ltd back in December 1991, and now says that the standards body has begun work on an architecture guide that is expected to be issued later this year. The guide will be followed by detailed specifications.

MICROSOFT RELEASES NT TO MANUFACTURING

Microsoft Corp last week announced that it finally released the Windows NT operating system and Windows NT Advanced Server to manufacturing, noting that the latter was being released 30 days ahead of the latest schedule. Microsoft said both products are scheduled to be available from resellers, systems integrators, computer manufacturers and software retailers - as well as direct from Microsoft - within three weeks. The company says more than 70,000 development kits for Windows NT have been shipped, and more than 2,000 new 32-bit applications for the Microsoft Windows and Windows NT operating systems are being developed for release over the coming months. The initial releases support both Intel Corp iAPX-86 architecture and MIPS Technologies Inc's R4400-based systems. Digital Equipment Corp expects to have the Alpha AXP version of Windows NT available within 60 days. Microsoft says cheerily that it still expects to sell one million copies of the two Windows NT products in the first year following shipment. Microsoft executive vice president for products Mike Maples said the company's sales target would put the new NT product at about 5% of its overall Windows sales - but the company faces the problem that build-up to the launch has been so great that any slippage in its forecasts threatens to see the product branded a failure by an unforgiving market. Windows 3.1 has been selling at greater than 1m copies a month and is where the real market remains.

NCR BACKS NT WITH CA AGREEMENT

The Unix-with-everything-beyond-the-desktop policy at NCR Corp has vanished with the sale by AT&T Co of Unix System Laboratories Inc to Novell Inc, and NCR is now equally interested in Microsoft Corp's forthcoming Windows NT. Having committed to setting up a chain of NT support centres, NCR last week joined with Computer Associates International Inc to announce that NCR's System 3000 family will be the first line of computers to support CA-Unicenter for Windows NT. Islandia, New York-based Computer Associates has settled on the System 3000 as the Intel Corp iAPX-86-based reference system for the CA-Unicenter systems management suite for NT. It is already going up under NCR's Unix on the iAPX-86-based multiprocessors.

ACER BUILDS RS/6000 POWERPORTABLE FOR IBM

The notebook computer Tadpole Technologies Plc is developing for IBM Corp is not the only portable RS/6000 IBM will have in its armoury. Acer America Corporation is making an AIX-based colour portable for IBM using the guts of Blue's RS/6000 Powerstation 220 as its engine. The machine, dubbed the PowerPortable, is the first of its kind. IBM's Unix operation, its Advanced Workstations and Systems Division, is expected to use it to fulfill part of a major contract, reportedly worth some \$400m to \$500m over 10 years, let recently by the Bureau of Land Management, an agency of the US federal government. The contract, known as ALMRS, is believed to call for a total of some 600 to 800 portable units. IBM regards the device as purely a niche product though Acer says IBM, which had exclusive rights to the machine, will attempt to peddle it to other AIX customers. Prototypes of the PowerPortable, developed last September, apparently helped IBM win the contract away from Hewlett-Packard Co which lacks a PA-RISC-based portable and reportedly bid an Intel Corp 80486-based portable running a version of Unix SVR4. Acer said incompatibility of the 80486 box with HP's other boxes counted against it. The PowerPortable system was developed and engineered by QTA, a partnership between Acer and QuickTurn Technologies Inc, an operation headed by Rick Schrameck, the man who founded San Diego firm RDI, inventors of Brite Lite, the first Sparc portable. Schrameck says IBM approached him about the AIX portable after he left RDI and he brought Acer in to manufacture. Shipments have started. All manufacturing, to IBM's monthly forecasts, is located in San Jose, California. IBM starts selling the unit in the US this week priced at \$13,500. QTA is to provide all support and service. The machine uses the single-chip RS/6000 Powerstation 220 planar board and offers 220 functionality. The planar features a 33MHz CMOS 2S RISC processor, highly integrated support logic, a 32-bit Micro Channel adapter slot and system I/O control logic. The unit offers 2D graphics, an upgradeable 10.4-inch 640 x 480 active matrix thin-film transistor LCD (capable of supporting external CRTs to a maximum resolution of 1280 x 1024 pixels), a 2.88Mb floppy drive, a 475Mb or 1.2Gb removeable hard drive, 16Mb of on-board RAM (expandable to 64Mb) and a keyboard with integrated trackball. The system, preloaded with AIX 3.2 and AIXwindows, will include Ethernet as well as SCSI, parallel, serial and external CRT ports. It weighs 17lbs and operates off the mains. Battery-powered operation will come in the future. IBM has Tadpole Technology, developers of the other Sparc portable, Sparcbook, running up a PowerPC-based widget for them. The Tadpole footprint is believed to be too small to accommodate the RS/6000. The Tadpole "Powerbook" of course is still about a year away from its launch.

SUN CONFOUNDS SCEPTICS WITH STORMING FOURTH QUARTER

Any good financial news out of Sun Microsystems Inc is always greeted with ecstatic relief, because the wisecracs are constantly looking for the company to take a purler, and Sun's fourth quarter outturn, with profits doubled to \$72m and sales up 30% against a 20% increase for the full year, was extremely encouraging. Moreover it is clear from the figures that with Sun now a \$4,300m a year company, IBM Corp is not going to succeed in its objective of displacing Sun at the top of the Unix tree anytime soon. If the RS/6000 had had anything like such a good quarter as Sun has had, IBM would have trumpeted the news: instead, it said only that "revenues grew in the quarter". Kevin Melia, Sun's chief financial officer, commented "We are very pleased with these results. We are particularly pleased with our 30% year-over-year revenue growth in the fourth quarter given the difficult economic environment in Europe. Revenue growth in the US and other geographies more than compensated for weak growth in European revenues." SunSoft Inc, the company's system software subsidiary, distributed 140,000 Solaris and Unix licences, 117,000 of which were Solaris 2. The Sun Microsystems Computer Corp hardware arm shipped a record 71,000 systems and 92,000 Sparc processors during the quarter. "In addition to our strong fourth quarter revenue growth, we achieved several important operational successes," said Melia: "We are realising the benefits of the processes we initiated more than a year ago to control spending growth. Our revenues per employee grew 16% in the year, to a record \$325,000. As a percentage of revenues, we reduced fourth quarter operating expenses more than 5.5 percentage points compared to the prior year, which more than offset the corresponding decline in gross profit margins. We have also continued our emphasis on asset management. Inventory turns and days sales outstanding both improved to record levels in fiscal 1993." The company also achieved a cash balance of more than \$1,100m after buying in \$200m of Sun's shares during the year.

"NOTHING PRECLUDED" FROM UNIX TALKS

Beyond Kanwal Rekhi's challenge to Unix International (UI) to make itself useful in the new scheme of things, Novell Inc is also involved in discussions with individual Unix vendors - at the highest levels - about achieving much broader participation in the Unix process and unifying Unix (UX Nos 440, 445). "Nothing is precluded" in the talks which have been going on for some time according to one source, although nothing has actually been decided either. Novell wants all the Unix suppliers to have input into Unix and is keen to pick a path through the industry's war-torn landscape. The effort embraces Digital Equipment Corp, Hewlett-Packard Co and IBM Corp as well as Unix SVR4 adherents and goes well beyond the machinations and posturing of the industry's existing mouthpieces. UI for one recognises that it cannot hope to bring about agreement at such a fundamental level and says it will support any effort to bring about overall unity. The bottom line for it, and other consortia however, is Novell's belief that if there is going to be a unification of Unix then there has to be a unification of the Unix groups. The process to find unifying themes which all can agree on will be a lengthy process, but Novell can fall back on a new relationship with UI in the meantime, which - at least according to UI's parlance - will embrace at least some of these threads. Indeed Novell is confident that some level of agreement will be reached, but believes the likes of DEC, HP and IBM need to feel under much more pressure from the likes of UnixWare and Microsoft Corp Windows NT in the market to make them reach for their pens. Novell observes ruefully that some firms pay more to the Open Software Foundation in membership dues than they do to it in Unix royalties.

OBJECT DATABASE GROUP READIES DATA MANIPULATION SPECS

The Object Database Management Group will publish specifications for a Data Manipulation Language specifications - a common language programming interface - which will enable software developers to write applications that will work with any object database, by the end of the year. The group, set up over a year ago in association with Sun Microsystems Inc and Hewlett-Packard Co (UX No 362), is made up of the top four object database companies including Object design Inc, Objectivity Inc, Ontos Inc and Versant Technology Inc. Object Design, the leading object database company, is responsible for developing the interface. According to Object Design's UK managing director, Jim Beagle, the Data Manipulation Language specification is a higher level of abstraction than ANSI SQL and sits between the database and the Object Management Group request broker, to intercept and translate requests for objects residing in different object databases. The specification is currently being ratified by the group and will be released towards the end of the year, Beagle says. In the meantime, Object Design will introduce a ream of new products over the next year. An enhanced version of ObjectStore, its object-oriented database, is expected by the end of the year. It'll include support for Microsoft Windows NT and IBM's OS/2 and improved backup and restore capabilities. Two gateway products are also planned. ObjectAccess, which is due in October, will enable users to access data from relational and object databases via Progress Software Corp's 4GL product. DB/2 Connect, a similar gateway product for IBM DB/2 and DB2/6000 databases, will be introduced next year. The firm's co-development with SunSoft Inc to embed object storage capabilities in Solaris is also slated for release next year.

STRATUS LOSES SYSTEM/88 OEM DEAL WITH IBM FOR LOCAL PACTS

In an extraordinarily convoluted announcement, Stratus Computer Inc says that IBM Corp is phasing out its System/88 machines, which it buys OEM from the Marlborough, Massachusetts-based fault-tolerant systems builder. In its place will be geographic reseller agreements between Stratus and IBM sales organisations under which local IBM offices will be able to deal directly with Stratus to resell machines under the Stratus name. There are currently local agreements in Australia, Canada, Switzerland and Hong Kong, and others are under negotiation on a local basis. Stratus and IBM also are developing plans to continue supporting, servicing and providing Stratus products to IBM System/88 customers and the work may end up being done either alone or by the two together. IBM business for Stratus, which stood at \$102m in 1989, had shrunk to just \$8.1m in first half 1993. Stratus has reported second quarter net profits unchanged at \$13.5m on turnover that rose 5.7% at \$124.1m. At the mid-term, the net profit fell 10.3% at \$22.3m on turnover that rose 4.9% at \$238.7m. Net earnings per share fell 2% to \$0.57 in the quarter, 11% to \$0.94 in the half.

HITACHI SIGNS TO TAKE HEWLETT

STATIONS OEM AND MARKET APPLE MACs

With the collapse of the world mainframe market and the flight from proprietary mid-range systems, the Japanese majors are suddenly finding themselves critically short of appealing new products to fill the gaps, and Hitachi Ltd is having to fill the holes in its product line by adding Hewlett-Packard Co workstations and peripherals under a new five-year OEM agreement worth some \$100m. Hitachi Ltd will sell HP workstations, servers and X Window terminals and is also licensing HP software, but it will also continue to sell its own systems, which use Hitachi-developed Precision Architecture RISC CPUs. The two say they're also working together to improve the quality of the Open Software Foundation's Distributed Computing Environment. Hitachi is also to offer Macintoshes sourced from Canon Sales Inc.

JCC ADDS HIGH-END X-TERMINAL AIMED AT DESKTOP PUBLISHING

JCC Corp, the Fort Lee, New Jersey arm of Japan Computer Corp has expanded its line of MIPS Technologies Inc R-series RISC-based X-terminals with the addition of the GX1600, designed specifically for desktop publishing applications. The JCC GX1600 is priced at \$5,000 and will ship in September, and the company says that it is negotiating with value-added resellers for distribution of the product. The JCC GX1600 supports the merging of text and graphics and offers full-page pagination on a 1,600 by 1,280 resolution 21" wide screen. Graphics from other applications and systems can be imported using the same aspect ratio as the original yet with higher resolution for finer detail and higher quality reproduction, the company claims. It reckons the terminal has all the features of the highest-performance X terminals and offers the sharp resolution demanded by several niche markets. The early beta test sites for the GX1600 includes a final assembly and test department as well as computer-aided design software development departments. With the JCC GX1600, users can view a page in its current stage; view two versions of the same page next to each other, compare a new geometry to the original at any time; and examine a document on a WYSIWYG basis. It is rated at 110,000 Xstones on the old measure and optimises hardware and protocols to reduce network traffic, minimising data lengths and error packets and uses an X Server Accelerator to offload X primitives to hardware. The GX1600 also allows for complete colour separation by exchanging graphics from other colour terminals and workstations.

SCO UNIX UP ON POWERFRAMES

Santa Cruz Operation Inc has ported SCO Open Server Release 3.0 operating system and SCO MPX 3.0 to Minneapolis-based Tricord Systems Inc's Powerframe family of proprietary enterprise servers. The two companies claim that the systems' performance rivals that of high-end RISC servers at a fraction of the cost. Under AIM benchmark testing, SCO Unix, running on a PowerFrame ES5000, turned in its best performance ever - it achieved a 125.7 AIMS rating - and costs \$219,000. In the same test, an IBM Corp RS/6000 580, costing \$85,000, attained a 62.1 AIMS rating, while an Hewlett-Packard Co PA9000 received a 75.3 AIMS rating - at a price of \$68,000. One of the main reasons for this improvement in performance, SCO says, is its SCO MPX Release 3.0 offering. MPX is essentially a software extension to the high-end, multi-user SCO Open Server Release 3.0 operating systems (UX 436), and supports servers with symmetrical multiprocessors, such as the PowerFrame ES5000. SCO Open Server Release 3.0 products running on PowerFrame servers can be used to link heterogeneous computing environments together. Tricord PowerFrame servers, incorporating SCO Open Server Release 3.0 and SCO MPX Release 3.0 are available now through Tricord resellers. Prices range from \$14,700 for a low-end PowerFrame Model 30 to \$78,735 for a top-end ES5000 enterprise server. A network server version of SCO's Open Server 3.0 costs approximately \$3,000; an enterprise server version, \$3,735, and SCO MPX is an additional \$1,645.

IEEE ENDORSES SBUS

Sun Microsystems Inc's SBus technology bus has been adopted as an industry standard by the Institute of Electrical and Electronics Engineers, IEEE. Wayne Fisher, chairperson of the IEEE P1496 working group that approved the technology, declared, "The adoption of SBus by IEEE is an acknowledgement of widespread industry acceptance and use". The specification, which defines all of the electrical, mechanical and logical interfaces needed to build SBus products, is due to be published shortly. SBus was first released in 1989 and is the highest performance local bus available for the RISC-based Unix market - it is also incorporated in all Sun Sparcsations and Sparcservers. SBus is essentially an inexpensive, microprocessor-independent bus that can be installed indirectly onto the primary system board. Reasons for the product's success, according to Sun's director of peripheral product marketing, Ed Turner, are: "From the start, SBus has been free of any licensing restrictions, design fees or royalties. Adherence to the published standard by all SBus manufacturers assures end-users not only of system compatibility and interoperability, but of protection of their investment as well. Overall, this benefits the entire Sparc systems community". More than 135 different manufacturers now sell over 350 different SBus input-output cards for applications as diverse as multimedia and speech recognition to networking interfaces and storage controllers.

RAXCO SECURITY MANAGER UP ON TIVOLI ENVIRONMENT

Rockville, Maryland-based Raxco Inc intends to integrate its security and assessment management tool, Security Toolkit/Unix (UX 426) into Tivoli Systems Inc's Management Environment (UX 434). Security Toolkit will form part of Austin, Texas-based Tivoli's framework for managing distributed systems. According to Raxco's Security product marketing manager, John Holland, the product "will take advantage of the Tivoli architecture and standards-based graphical desktop, providing an effective method to manage security centrally for a network of systems. Security Toolkit's easy-to-use graphical user interface and client-server architecture make it a natural fit for the Tivoli environment". Tivoli's vice president of marketing, John Hime added, "Customers will now be able to use and integrated Security Toolkit from their Tivoli graphical desktops, giving them easy access to tools for centrally managing, auditing, spotting and correcting security problems throughout their networks". Security Toolkit/Unix for the Tivoli Management Environment will be released during the third quarter of 1993, but no prices were available.

MEIKO'S NEW NATIONALITY

Meiko Scientific Ltd has had to change its nationality to make its mark in the US, and the Bristol-born company now sits under a US corporation, Meiko World Inc, which sits atop the Meiko Scientific Corp operating company in Waltham, Massachusetts and the UK research and development arm in Bristol. The company remains employee-owned and free of venture capital, funded by cash flow from sales. It has technology partnerships with SunSoft Inc, Oracle Corp, Fujitsu Ltd and ICL Plc, and claims the largest worldwide installed base of scalable, parallel computer systems, with customers including British Aerospace Plc, General Electric Co Inc, Glaxo Plc, Hewlett-Packard Co, Hitachi Ltd, ICI Plc, Lloyds of London, National Westminster Bank Plc, Royal Dutch Shell, Toyota Motor Corp and Lawrence Livermore.

PILOT PORTS EIS SYSTEM TO UNIXES

Pilot Software Inc has ported its executive information system, Command Centre Plus, to IBM Corp's RS/6000 and Hewlett-Packard Co's HP 9000 Unix machines in response to customer demand "for a cost-effective solution for transferring traditional mainframe EIS applications into robust Unix server environments," it says. The new versions of Command Centre Plus incorporate direct SQL interfaces for Oracle Corp and Sybase Inc databases. Available now, they cost \$30,000 for a 10 user licence. Boston, Massachusetts-based Pilot also plans to port the product to Santa Cruz Operation Inc Unix, Unix SVR4 and SunSoft Inc's Solaris 2.

IBM TO SHED ANOTHER 85,000 JOBS AS IT TAKES \$9,000M HIT

Making it clear that he wants to clear all the misery out of the way in one vast hit, IBM Corp's new chairman Louis Gerstner last week announced that 85,000 people will leave IBM this year, up from the 25,000 planned at the start of the year, and that the company will be down to 225,000 employees by the end of next year, which comes close to the number at which more pessimistic observers believe it can stabilise. Moreover the cuts this time will be primarily outside the US: IBM UK Ltd has already cut savagely, which implies big new cuts on the continent and in Japan so far as the latter is politically feasible. The cost of this additional blood-letting is \$6,000m, to which \$2,900m has to be added for further plant consolidations and closures, leading to a whopping \$8,900m in additional charges and a net loss for the quarter of \$8,000m. Turnover for the quarter was down, though not by as much as in the first quarter: it fell 4.3% to \$15,520m. And the company is beginning to see the benefit of all the blood-letting - selling, general, administrative and research and development expenses fell 9.5% to \$5,863m. The dividend is cut by more than half, to 25 cents, from 54 cents last quarter. IBM says that the moves will result in savings of \$4,000m annually. Commenting on the moves, Gerstner said getting the cost and expense structure in line with the revenue realities of the industry was his highest near-term priority: "If our current view of future industry revenue and demand proves incorrect, we will have to take further actions. But if our assumptions prove correct, we believe we will be able to absorb, without resorting to additional special charges, the costs associated with any future productivity improvements."

...AS MAINFRAME DECLINE CONTINUES BUT PERSONAL COMPUTERS ARE PROFITABLE

Breaking down IBM Corp's second quarter figures, hardware sales plunged 12.9% to \$7,526m, software business grew marginally, up 1.2% to \$2,715m, but maintenance slipped 2.3% to \$1,875m. Services leaped 26.6% to \$2,352m, although there is no confidence that IBM makes money on this business, and rentals and financing fell 6.3% to \$1,069m. Costs rose 14.2% to \$9,545m and gross profit fell 24% to \$5,974m. On the staff cuts, IBM said that, as of year-to-date, approximately 50,000 employees have left or are committed to leave the company in 1993 on a worldwide basis, and that the new actions will result in a further decline of about 35,000. Revenues from IBM's workstation family, the RS/6000 grew in the quarter, although clearly not by much because the company would otherwise be crowing.

BULL GOING FROM BAD TO WORSE

Compagnie des Machines Bull SA's first half losses have soared to \$338m from \$288m a year ago, a 17.5% increase, and turnover declined twice as fast as it is at IBM Corp, falling 9.5% to \$2,130m, suggesting that the company will soon be smaller than ICL Plc once more. Bull has now accumulated losses of \$2,530m in the past three years, which may still look like peanuts by comparison with the write-offs at IBM, but the company has shown no signs that it is doing more than managing decline. As with Siemens Nixdorf Informationssysteme AG, with each forecast, the time in the future that profits are seen to be possible actually lengthens, so that the prospects for profitability are receding rather than coming closer as time goes by. The company is now only tentatively forecasting an end to its operating losses in 1995.

NOW TANDEM TAKES \$451m IN CHARGES TO SHED 1,600 TO 1,800 PEOPLE

Tandem Computers Inc followed up IBM Corp's shocker of a write-off by taking stunning \$451m in restructuring charges against its third quarter figures - in a period when turnover was only \$377m, for a loss after charges for the period of \$549m. Tandem says it expects to cut its workforce by about 15%, 1,600 to 1,800 people, over the next 12 months, and that there may be another loss in the fiscal fourth quarter. The company also set an across the board pay cut of 5% and reduced benefits in what it says will be a permanent shift in its salary structure. It is cutting jobs at its Tandem Telecommunications division, at Ungermann-Bass Inc and at its European operations, and expects 700 people to leave the payroll this quarter. Tandem says that with the restructuring it has an operating plan for greatly enhanced profits, assuming revenue growth of only some 5% next fiscal. Rob Hoogstraten, who was in charge of day to day operations, has left the company, and he has been succeeded by Jack Chapman. Ralph Ungermann, on medical leave recuperating from major spinal surgery, has resigned as chief executive of Ungermann-Bass.

DIGITAL EQUIPMENT BACK IN PROFIT BUT STILL SHY OF ANALYSTS' GUESSES

Digital Equipment Corp finally crawled back into profit in its fiscal fourth quarter, but the figure of \$0.85 a share was a bit below analysts' consensus estimates of \$1.06 a share. The company said that as a result of the uncertain economic outlook, it remains very cautious about its ability to maintain profitability for the seasonally soft fiscal first quarter now under way. DEC also said its fourth quarter research spending fell 24% now that the hard work on the Alpha RISC is out of the way, the reduction of \$116m a year earlier, to be more in line with competitive norms. The company says that in the quarter it experienced some slight revenue growth in the US and solid growth in Asia, compared with the fourth quarter of last year. "However, our European business in general was weak, as was true for most technology companies," said William Steul, vice-president and chief financial officer. The rate of take-up of the Alpha AXP machines seems disconcertingly low, and revenues from the AXP line were a small factor in fiscal 1993 results, the company says, adding that it is "looking forward to increasing contributions from this new line of computers". It says there are currently 2,600 software applications available to customers for the Alpha environment. Robert Palmer, president and chief executive, added that despite the company's concern about the seasonally soft September quarter, he is "confident that Digital is poised for resurgence." Analysts said that DEC's revenues were somewhat better than expected, especially considering how other computer firms are faring in this difficult environment especially in Europe. Gross margins fell sequentially in the fourth quarter to about 38.7% of revenues, down from the third quarter margins of about 40.6%. DEC has reported a fourth quarter net profit of \$113.2m against a loss last time of \$1,855m that included a \$1,500m pre-tax restructuring charge, on turnover up 0.2% at \$3,914m. Net loss for the year to June 30 was \$251.3m, down from a loss last time of \$2,795.5m that included the restructuring charge and one of \$485m from an accounting change, on turnover that rose 3.2% to \$14,371m. Net per share were \$0.85 in the quarter.

SILICON GRAPHICS CELEBRATES SUCCESSFUL YEAR WITH "ONLY WAY IS UP" CRY

Silicon Graphics Inc is planning for 30% revenue and earnings growth this year by attempting to stay nimble and ahead of the competition in the "chaotic" computer industry, chairman Ed McCracken told *Reuter*. "We believe the computer industry is in a state of chaos and will stay that way forever," he said, but "we're faster on our feet and more focused than our competition." Now a \$1,100m-a-year company, Silicon Graphics says demand for its workstations is strong in the automotive and aerospace sectors as well as in Hollywood where, as reported, its computers have been used to create special effects in such films as Jurassic Park and The Terminator. McCracken believes the company is gaining market share in all its market segments by being able to move quickly with new products and software enhancements, and says the company's management style and corporate culture is structured to accept constant change, reflecting the turbulence in the industry. "We don't do long term planning," said McCracken. "In fact, we try to stamp it out." Research and development is expected to increase this year with the aim of keeping expenditures at about 12% of revenues. In fiscal 1993, research and development totalled \$136.6m. One of the challenges this year will be ramping production for the new low-cost Indy workstation, which starts at \$5,000. McCracken expects Indy to become its biggest seller over the new few years and to take the company into new markets, putting it up against Apple Computer Inc in the graphical desktop market for the first time. SGI reported fourth quarter net profits of \$35.2m after a \$2.8m tax credit, against a loss last time of \$108.9m, struck after \$110m in merger-related expenses, on turnover that rose 33.1% at \$319.3m. Net profit for the year to June 30 was \$95.0m against a loss last time of \$118.0m, on turnover up 27.0% to \$1,100m.

HARRIS ADACOM GUNNING FOR SYSTEMS INTEGRATION BUSINESS WITH NEW EURO UNIT

By Cath Everett

Harris Adacom Corp has spun off a separate European systems integration business to try and plug what it reckons is a gap in the market for ways of integrating mainframes with "open systems". According to the new Network Systems division's UK chairman, Ray Sheath, the decision to set up a company independent of the group's core IBM Corp mainframe communications activities was "customer-driven". And the aim of Network Systems, he declared, is to provide a focussed way of exploiting a changing market - this market comprises mainly the Top 1,000 companies worldwide, but is not, Sheath said, limited to individual industry sectors. He describes the current situation as this: as little as 15 years ago, IBM dominated the world of information technology with its mainframes. Although things started altering in the wake of the microprocessor and particularly the personal computer, Big Blue was slow to react, not appreciating that these things wouldn't simply go away. So, as other vendors began offering alternatives, IBM lost its strangle-hold on the industry, and "islands of computing developed, independent of the IBM island". Now, however, customers are beginning to realise that lack of integration between the two worlds means they are not exploiting their resources to the full. Furthermore, as UK sales and marketing director Andy Dugdale points out, they are not keen to scrap expensive technology that still has a role to play in their organisation. "Unlike the dinosaurs, mainframes won't vanish overnight. Even if new mainframe sales stop dead tomorrow, most large companies will continue to use them as super server data servers for many years. That means that most of the big open systems projects must embrace mainframes". His definition of "open systems" includes personal computers as well as Unix because, as he quite rightly says, MS-DOS and Windows have become de facto standards. The result of all this, Sheath attests, is that "people are now trying to integrate their islands with their mainframes".

Sheath claims the systems integration market is divided into three major categories: the major hardware vendors, such as IBM and Digital Equipment Corp, which have all the relevant skills, but are too biased towards their own products; consultants, such as PA Consulting and Arthur Andersen, which focus on the management aspects, but lack in-house technical support staff; and independent systems integrators, such as SHL Systemhouse Ltd and Electronic Data Corp's EDS-Scion Ltd, which have concentrated too much on open systems and so lack mainframe experience. Harris Adacom Network Systems Ltd, conversely, he claims, is unique in several ways. First and most importantly, traditional IBM mainframe customers are both used to and expect "the comfort factor" of high levels of support, not just locally, but on a pan-European basis. So, "any systems integrator, which wants to help mainframe users migrate to open systems must offer a credible alternative". Harris Adacom, he says, has 28 years of experience in the IBM world, plus six offices in the UK, and a further 21 in continental Europe. Therefore, the Dallas, Texas-based group is well placed "to take over the IBM role, by providing an alternative to IBM". Second, although UK sales and marketing director, Andy Dugdale, declared that Network Systems was Harris Adacom's "first formalised move into systems integration", he attested it has been "gaining exposure" to the area over the past two or three years. Up until this point though, such work has been "project-driven", he said - basically if a customer needed a one-off job doing, then Harris Adacom would oblige, mainly by providing "PA Consulting and Arthur Andersen-like management skills". But it was by undertaking such work that it was able to build up "the skillset to enable it to understand how both systems work". Approximately 90% of deals to date have involved integrating mainframes with Unix systems. The general trend, Dugdale says, is that customers want to use their mainframe as a data server, their Unix boxes as applications servers, and their personal computers as clients. Harris Adacom Network Systems has between 50 and 60 existing European customers, including Toyota Belgium, Telefonica de Espana, and GEC Alsthom Electromecanique SA. But a further advantage of going with the company, Sheath reckons, is that it has developed its own "glue" to "intelligently connect systems together". This glue is essentially the group's own Supernet machine, which runs Santa Cruz Operation Inc networking applications. These enable Supernet to act as a dedicated mainframe-to-Unix gateway.

Negotiate

But this is the only Harris Adacom product that Network Systems intends to use - the rest are third party offerings. The difference with Harris Adacom, however, is that it uses only one or two individual manufacturers to supply each type of product. For example, its hubs come from Synoptics Communications Inc; its routers from Wellfleet Communications Inc and Crosscom Corp; its gateways from McData Inc and Interlink Electronics Inc; and its servers from Tricord Systems Inc, Solbourne Computers Inc, Sun Microsystems Inc and Novell Inc. Network Systems plans to supplement its current offerings with software and wide area network products by entering into partnerships with various unnamed vendors over the next 18 months. Even simply working on an ad hoc basis, the business generated approximately £2m turnover last year in the UK alone - out of a total of about £12m. And he says it "would not be unreasonable to expect revenues of between £10m and £15m" within three years. But Sheath does not rule out acquisitions as a means of achieving this target. Services companies, specialising in perhaps education and training or low-level programming, would be most appropriate, he said, although he has nothing in mind at the moment. Because of the potential importance of this new division, Harris Adacom is concentrating the majority of its staff resources on it. Out of approximately 145 employees in the UK, only 25 will remain with Harris Adacom Ltd - the sales and marketing arm of the traditional connectivity products business. The group operates in five other European countries, including France and Germany. These have all been carved up in the same way, but all come under the umbrella of Adacom Europe.

SOFTWARE AG PORTS RAPID APPLICATION DEVELOPMENT TOOLS TO UNIX

Software AG has now decided that Unix is commercially viable enough to port its rapid application development tools to various flavours of it. The Darmstadt, Germany-based software company began taking an interest in the Unix arena about two years ago, when it released Unix versions of its Natural applications development language and Adabas database (UX 338). And this according to product marketing manager, Richard Kellett, is simply "the latest phase of the roll-out". The rapid application development, RAD, toolkit comprises analysis and design tools; gateways, which enable users to use third party computer-aided software engineering tools; as well as several elements of core technology that were previously not available under Unix. This core technology is the Predict repository and data dictionary, which enable developers to use metadata for creating and maintaining files; and the Natural Construct applications generator. This is a source code programme that generates Natural fourth generation language code. And, says Kellett, Natural Construct is special because, unlike most "traditional pc and Unix developers", Natural users never have to "break out of a 4GL to move into a 3GL" when building applications. This, he claims, has two advantages. First, it helps cut development time down by at least a third. Second, third generation languages, he declares, "are not portable". As a result, he feels justified in attesting that Software AG "is the only company who has fully portable source code". This source code is portable in several ways. While he describes programmes written in Cobol as "a big lump" with lines of code written one after the other in a linear fashion, programmes built using Natural Construct are structured differently. At the heart of each is a command processor, which has the "same source code look and feel in all environments". This software processes a user's command when he wants to manipulate data. But, at the front end is a screen interface application programming interface, which plugs into the driver of a given screen.

Earners

If the developer wants to change screen type, he or she simply uses a different application programming interface. The data interface is likewise an application programming interface. And again different versions plug into different databases. While Kellett doesn't like to call the technology object-oriented as he reckons too many people are jumping on the bandwagon - saying they have object kit when often all they have an object-oriented front-end - Natural Construct, he states, is essentially an object product. Standard technical segments of recurring code are presented in template form, that is they incorporate "data plus function". Developers can then re-use and re-define these templates as necessary. Also, so that users can consistently run all versions of their applications across different releases of the Unix operating system, Software AG uses Hewlett-Packard Co's HP/UX as a base model - HP/UX was the first Unix product it ported to. New functionality is always added to this "reference version" - users simply need buy different ports for different flavours of Unix. Although Software AG has no current customers for its product in the UK to date, Kellett reckons it will be a big revenue earner. Approximately 15% of total UK turnover last year - about £16.3m - was generated from Unix sales. A further 5% came from other midrange systems, such as the AS/400, and the rest from mainframes. But this year, Kellett is going for a 70-30 split - and he reckons most of the 30% will be generated by Unix. The RAD toolkit is immediately available for Hewlett-Packard Co HP/UX, IBM Corp's AIX, and Santa Cruz Operation Inc boxes. NCR Corp, ICL Plc and Siemens-Nixdorf Informationssysteme AG releases will follow by the end of this year, and most other vendors should be covered by the middle of 1994. But there are no immediate plans to port to Microsoft Corp's new Windows NT offering, or "not until it becomes a stable platform" and starts building up a customer base. A single user licence costs £5,000 and a full development licence for 20 users, £500,000.

FUJITSU PUTS ITS OFFICE ACCOUNTING SOFTWARE UP ON ITS ICL-SOURCED LINE

Fujitsu Ltd has announced that its best-selling Japanese office automation and accounting package from its proprietary K series office computers is now available on the DS/90 7000 range of Unix computers that it buys OEM from affiliate ICL Plc. Capsel provides a series of sales, salary and accounting management packages for a medium-sized organisation or a departmental system for a larger company. Fujitsu has achieved sales of 20,000 units of Capsel to date, and has a support organisation of 350 specialists in 29 locations around Japan. The services of these people will be provided on a chargeable basis under the new Propose service structure. It is now possible to link Capsel to Oracle and Informix databases and to existing personal computers in the organisation. Fujitsu hopes to sell 4,000 copies for the DS/90 series over the next three years, at prices starting from \$8,411 for the payroll system.

CYGNUS GNU TOOLS TO AID DEVELOPMENT OF NETWARE MODULES

Novell Inc has duly announced that it has recruited Unix tools developer Cygnus Support Inc, Mountain View, California, to help it develop NetWare Loadable Modules for multiple server support (UX No 446). The use of GNU tools for NetWare will enable developers to build messaging, database links and telephony applications a lot faster, says Michael Tiemann, Cygnus president. It also means NetWare Loadable Modules need be written only once to run on Intel Corp, Hewlett-Packard Co, Digital Equipment Corp and Sun Microsystems Inc systems. Contrary to the impression given earlier, the tools will not enable NetWare Loadable Modules to run under NetWare for Unix or UnixWare: instead it gives Unix developers the chance to write NetWare Loadable Modules for any of the native NetWare implementations. Developing a NetWare Loadable Module tends to be a task for a specialist - but agreement between Novell and Cygnus Support will see GNU Unix-based development tools come into play for the first time. GNU is one of the triumphs of the Internet - a collaboratively-developed, freely distributable version of Unix, complete with attendant development tools. The idea was to produce a version of the operating system devoid of AT&T Co code (GNU is a reflexive acronym standing for Gnu is Not Unix), and in this it succeeded. Cygnus makes its money by testing and supporting GNU. However it is the GNU development tools that have proved particularly popular with developers, and which have caught Novell's eye. Together Novell and Cygnus Support intend to add facilities to the tools specifically designed to build NetWare Loadable Modules. Moreover it is claimed that the Loadable Module source code will be able to cross-compile, without modification, to run on any native NetWare implementation. But perhaps most important is the news that the NetWare Loadable Module-construction facilities will be added into the core of the standard GNU offering. This means that the tens of thousands of developers that get GNU over the Internet will suddenly find themselves with the wherewithal to begin building NetWare Loadable Modules.

NETWARE TO BE FULLY MANAGEABLE FROM ANY SNMP STATION

If you were Novell Inc, and you had just bought Unix, you'd want to make sure that NetWare servers could be properly managed from Unix boxes. So it is that the Provo, Utah-based company has revealed the details of version 2.0 of its NetWare Management System Software Development Kit. At the heart of this release is the idea that any Simple Network Management Protocol-based management station should be able to control all aspects of a NetWare server and its clients, just as you would expect with Novell's own tools. For this to work, the new version will have an updated NetWare server Management Information Base and SNMP transport, and a desktop management module enabling applications to collect information from desktop systems, including statistics on hardware configuration and software memory consumption. Non-developers are going to have to wait until next year for a Novell-built agent to implement these capabilities. The NetWare server Management Information Base provides a pretty comprehensive set of statistics, sounding functionally similar to those garnered from conventional NetWare utilities. On the central system side there is basic configuration information, including revision information, usage and uptime, information on the file system and print queue information. Likewise user login and connection statistics including users' account disk and volume usage, login privileges, and connection tables; the 2.0 tool kit is \$500 in the US and is available immediately.

SUN, NATSEMI, BACK GRAND JUNCTION FAST ETHERNET

Fast Ethernet developments continue apace with the announcement that Grand Junction Networks Inc, SynOptics Communications, Sun Microsystems Computer Corp, National Semiconductor Corp - presumably wanting to make the chips - and un-named others are developing a 100Base-X interoperability specification based on Union City, California-based Grand Junction's proposal to the IEEE 802.3 committee last November. The companies are part of the faction that backs keeping Ethernet's CSMA/CD protocol more-or-less unadulterated for the 100Mbps version of the dominant networking standard. 100Base-X glues CSMA/CD onto the ANSI X3T9.5 Physical Medium Dependent layer used by copper-based Fibre Distributed Data Interface. Unfortunately this technology is limited to category 5 (data grade) unshielded twisted pair cabling, whereas the broader coalition of CSMA/CD supporters are pushing for support on voice grade category 3 and 4 cabling as well. It is understood that 3Com Corp will be giving some form of definitive word on its plans on August 2.

HESSEN POLICE ELIMINATE SIEMENS FROM THEIR ENQUIRIES AS THEY BUILD "BIGGEST GERMAN UNIX SYSTEM"

The police in Hessen, Germany have caused a national stir by implementing the country's largest ever Unix system - and without the help of former ally Siemens Nixdorf Informationssysteme AG. After working together for two and a half years, the two parted company about a year ago because according to Computerwoche, Siemens Nixdorf proved to have insufficient technical experience in "the data processing sense". The police used a get-out clause to free themselves, and Siemens Nixdorf lost a contract worth at least a million Deutsche Marks. The group was originally supposed to supply the first lot of hardware - four Unix servers and 700 personal computers - but the concept of client-server computing was later rejected as being too complicated. Maintenance and support costs were also felt to be too high. The whole project was subsequently re-worked by Kiedrich-based Ploenzke AG. The aim of the new office and administrative system, Hepolas, is to improve standard police procedures. Each department will be able to carry out about 80 typical tasks on each computer, including making out charges or drawing up reports on traffic accidents. This means that, in future, all departments will execute their tasks in a standard way - and, it is claimed, in a fraction of the time. Frankfurt is currently acting as the test site, and while full automation is expected to take about a year, the first system went live in the Hofheim area last week. Some 650 of a total 3,000 machines are now in place, with Network Computing Devices Inc's X-terminals linked to 50 Motorola Inc series 8000 Unix-based departmental servers. Siemens Nixdorf didn't loose out completely though - it won the bid to supply 650 HP 4819 laser printers. Hemel Hempstead, Hertfordshire-based Uniplex Ltd will supply the office automation software, while applications software is currently being developed by Tubingen-based Integrata AG along with certain other unnamed "software partners". The police do hope to take over such work later on, however. In addition to the above, two Motorola 8640s will undertake data protection and communications management across the region. Hepolas should also enable users to communicate with the Hepolis mainframe. This is based in Wiesbaden and stores regional data on criminal offences and where criminal acts have taken place. Hepolis, in turn, provides access to the national police computer or to other sources of data, such as the central register on foreigners in Cologne. Access is, however, restricted to high ranking officers. But the Hessen police force doesn't intend to stop there. It also hopes to build its own X25 network based on TCP/IP protocols to link up each of the regional computers as well as the Hepolis mainframe.

HAMILTON APPOINTED FIRST UK RENTAL FIRM FOR HP UNIX BOXES

Hewlett-Packard Co has appointed London-based Hamilton Rentals as the first UK rental outfit for its Unix workstations. The deal is reckoned to be worth £5m over three years. Hamilton also offers Digital Equipment Corp Unix kit for hire. +1 81 961 6777.

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The weekly information newsletter for the UNIX™ community worldwide

Former director of communications at Unix International Europe, Graham Wilson, has kicked off a new marketing and services company, **Logan & Wilson Associates**, based in London and Brussels: +32 2 735 6577.

Irvine, California-based **Hiarc Inc** is offering its Sparcus hierarchical storage management software on Unix from \$4,000. +1 714 253 6990.

Finding they have much synergy and little overlap, **Sun Microsystems Inc** and **Intergraph Corp** are expected to develop closer ties following the conclusion of their NT-on-Sparc deal (UX No 444). Meanwhile, Sparc followers, **HaL Computer Systems** and **Fujitsu Ltd** have both enquired if they'll be able to licence the port: Intergraph says the port will take around a year to do properly.

Compagnie des Machines Bull SA says it will make a major announcement on very large enterprise servers with **NEC Corp** soon.

Informix Corp has reported second quarter net profits up 33% at \$12.0m on turnover up 40% at \$84.3m. Mid-term net profit rose 14.8% at \$23.5m on turnover up 35.3% at \$161.4m. Net per share rose 29% to \$0.18 in the quarter, 6% to \$0.35 in the half.

Network Computing Devices Inc has reported second quarter net profits at \$2m, against a \$192,000 loss last time, on turnover up 22.1% at \$35.2m.

Putting further pressure on chip prices suddenly inflated by panic buying, **Kyocera Corp** says it is not going to take the pain of the high yen exchange rate against the dollar any longer, and is raising the export prices of its electronic components by an average 12.5%. Most important are the ceramic chip packages the company makes for most of the world's chipmakers, and these will be increased by 10%.

The major Japanese chipmakers say they plan to cut holidays short and boost production this summer. **Hitachi Ltd** and **Fujitsu Ltd** plan to keep 24-hour chip fabrication lines working throughout the summer holiday season, with shift workers taking time off in turns. Japanese factories usually close for about a week in mid-August at the time of a rural Buddhist festival. Panic buying for fear of shortages has exacerbated already strong demand for 4M-bit memory chips from the US and firms have also been encouraged by sudden sharp rises in chip prices.

Oracle Corp says that production versions of Oracle7 are available under **Digital Equipment Corp's** OSF/1 for Alpha AXP and OpenVMS for Alpha AXP, and claims to be first.

Digital Equipment Corp has had to disconnect two of its Alpha AXP machines from a global computer network after concern about possible export violations - even though the computers never left the US, the *Wall Street Journal* reports. DEC said it was concerned that foreigners could connect to the computers from abroad, generate data, and illegally export it over the Internet global network; the Alpha models aren't supercomputers, but are powerful enough to be restricted by US federal rules.

Data General Corp has reported a third quarter net loss of \$16.4m, up from a loss last time of \$11.7m that included a \$48m restructuring charge, on turnover that fell 2.6% at \$252.4m. Net loss for the nine months was \$23.2m, down from a loss last time of \$63.0m, on turnover down 3.4% to \$799.5m.

Ask Group Inc has reported fourth quarter net profit down 41.5% at \$4.8m on turnover that fell 9.8% to \$128.4m. Net profit for the year to June 30 was \$149,000 against a loss last time of \$47.7m, which was after a \$55m writedown, on turnover that fell 1.4% at \$426.2m. Net earnings per share fell 44% to \$0.20 in the quarter and were \$0.01 in the year.

If you are an **IBM Corp** shareholder - and most of us are if we have pension funds, insurance policies or unit trusts with any US element - you will know this litany well. But for those that don't, *Reuter* has compiled the 10-year record of the IBM share price: the share price range so far this year is \$41.67 to \$95.50; last year it was \$48.75 to \$100.37; in 1991, \$83.50 to \$139.75; 1990, \$94.50 to \$123.12; 1989, \$93.37 to \$130.87; 1988, \$104.25 to \$129.50; 1987, \$102 to \$175.87 - when, laughably, a few people started talking optimistically about when they might next be split, since they were getting a bit heavy; 1986, \$119.25 to \$161.875; 1985, \$117.375 to \$158.75, and 1984, \$99 to \$128.50.

Sybase Inc opened a new European unit in Belgium, **Sybase NV/SA** - the clumsy name is because the two halves of Belgium hate each other so much that each has to be appeased by having the abbreviation for "limited" in its own language: the firm was formed via the acquisition of **Sybase Software NV/SA**, the company's former distributor.

Correction: the Xstone rating on **Sun Microsystems Inc's** new X terminal should have read 29,900 to 102,600 Xstones in last week's issue. We quoted it at 29,000 Xstones.

IBM Corp is reportedly interested in **Echo Logic Corp's** translator-cum-emulation capabilities for its PowerPC and RS/6000 machines. Echo is the AT&T-owned start-up working with **Apple Computer Inc** on getting its Mac applications ported over.

Sun Microsystems Inc's SunSelect is now grudgingly acknowledging that for Wabi to run some applications or program revisions it would require Windows underneath. Unigram readers complained last week that SunSelect was misusing intellectual property when it suggested that programs such as Paradox and PowerPoint - software Wabi contends it runs, despite the fact that it can't supply the Microsoft Corp's OLE DDE they need to interact - borrow that facility from a neighboring software program rather than use a Windows package. SunSelect is now saying that is possible but not desirable and claims the second release of Wabi will supply the missing OLE piece.

Sun Microsystems Inc is currently struggling internally to decide whether it should remain a high-end technology innovator (for which read niche player) or risk everything, including its corporate culture and the loyalty of its workers, to go for broke, pare prices and pursue volume.

In reference to an item we ran recently (UX No 445), **Unix Systems Laboratory** chief Roel Pieper says he never slammed a door in his life let alone on a meeting of **Novell Inc** executives. He also says his compensation package was never as high as we estimated.

Unix International's proposed relationship with **Novell Inc** - see front page - drew short shrift from **Sun Microsystems Inc**: quite apart from Sun's outstanding reservations about what Novell is doing with USL, the firm is very much committed to the path it has already mapped out for its Solaris Unix operating system and for the COSE initiative. It views any new application programming interfaces and branding schemes for Unix with suspicion. Still firmly in the COSE camp it asks "we've got Motif, we've got Open Network Computing, why not contribute to COSE?"

Since **Santa Cruz Operation Inc** went public earlier this year, its shares have plummeted by as much as 59%. And the slump has been blamed at least partially on the fact that neither the firm nor its lead underwriter, **Goldman Sachs**, alerted shareholders to chairman, **Jim Harris's** ill-health in the pre-offering prospectus. SCO says it was "deemed not to be material" because Harris "had no day-to-day responsibilities or involvement in the company." Unfortunately, Harris died this month (UX 434). It seems that shareholders would have grounds for taking issue with SCO's financial advisors on the matter.

Pyramid Technology Corp and **Locus Computing Corp** are getting together to undertake joint research and development work on a project that may possibly pose a threat to the Open Software Foundation's Distributed Computing Environment. The aim is to incorporate applications of Locus's Transparent Network Computing technology into future Pyramid massively scalable products and into its current clustered systems.

Ingres Corp had egg on its face last week after the firm's press office admitted it had made a proofing error in April, when claiming Ingres' multilevel secure database had ITSEC (Information Technology Security Evaluation) FB-1 security. In fact, it only has E3 level security (UX No 433). ITSEC appears to be somewhat peeved that allegations weren't rectified immediately, but the organisation also admitted it had missed the error. Ingres now claims its secure database has functionality equivalent to FB-1.

Sybase Inc's UK managing director Vince De Gennaro quit last week, after more than five years with the company. His sudden resignation came literally hours before Sybase reported strong second quarter results. No replacement has been found.

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PEACE AT LAST, PEACE AT LAST PRAISE GOD ALMIGHTY, IT'S PEACE AT LAST

This month, sometime before Labor Day (September 6th) in America, at an undetermined location, the Unix industry is finally - and officially - going to lay down its arms and declare Unix unified at last. At least that's the plan. Its realisation depends on getting and keeping everybody together long enough to pull it off. As a starting point, IBM Corp and Hewlett-Packard Co, schismatics since the founding of the Open Software Foundation back in 1988 (UX No 180), are supposed to be reunited with their orthodox Unix SVR4 brothers in a massive outpouring of support for an agreed set of common application programming interfaces that has elements of SVR4.0 as its base and may embrace far more than the mere kernel. The HP/IBM reconciliation, while high-profile, is viewed as only the tip of a iceberg extending down through the entire industry with no one excluded, except perhaps for Microsoft Corp. Reunification has apparently been achieved under the auspices of the Common Open Software Environment (COSE), which has been driven largely by HP, IBM and Sun Microsystems Inc with some help from Novell Inc and the Santa Cruz Operation Inc. However it may not be billed as a COSE event. It is expected to be memorialised in a huge industry announcement, attended by major independent software vendors, equivalent to the precedent-setting photo opportunity presented the day OSF was launched. Santa Cruz Operation Inc is expected to use this as an opportunity to move to SVR4. The pain of companies such as HP and IBM in making the adjustments is all in the future and a roadmap with milestones should be detailed. Neither HP nor IBM is expected to abandon their existing versions of Unix, HP/UX and AIX respectively, though some changes are anticipated. Rather they may adopt a route similar to the one taken by Digital Equipment Corp in supporting an SVR4 personality under their current implementations. Exactly how they will do what they are contemplating doing is reportedly still not nailed down. DEC, which came to COSE late in the game and has been OSF's most ardent supporter, will also probably lend its support to the unification move. Some time ago, IBM isolated the elements common to key Unix variants, some 200 items, application programming interfaces and system calls. This study may form the basis of the future unification work.

UNISYS TO DO COMMERCIAL PARALLEL PENTIUM SYSTEMS

As expected (UX No 447), Intel Corp and Unisys Corp last week made public their plan to cooperate on a range of parallel processing initiatives - including the development of a massively parallel system - which they hope will lead to the creation of a new breed of commercial systems based on multiple Pentium CPUs. The new system, being co-designed by Unisys and Intel's Supercomputer Systems Division, will run Unisys' implementation of the Unix System Laboratories Inc's Unix System V.4 microkernel, which is based on Chorus Systemes SA's Chorus/Mix system software. It will use the Intel unit's 175Mb per second SPP parallel interconnection system previously employed on the 80860 RISC-based Paragon XP/S supercomputer series. Unisys will develop systems management, administration and application software on the machine and will use a prototype system supplied to it by Intel as the basis of a new line of commercial parallel systems using Pentium. Unisys is co-designing the node boards and has contributed to the input-output and system initialisation (BIOS software) services. It will also develop distributed applications and utilities and employ parallel database and Mapper and Link tools on top of the Unix microkernel operating system, employing some of Intel Supercomputer's parallel software techniques. The deal between the two is not exclusive and will allow Intel to offer its interconnect technology to other companies. Smaby Group forecasts the market for scalable parallel processors will be worth \$1,670m by 1997 - 65% (\$1,090m) of which is expected to be accounted for by commercial systems. The two offered no time-scales for completion or delivery of the new technologies, but indications are that Unisys' commercial parallel line won't be around until 1995. However, co-development has been underway since December of last year and has already resulted in a 16-node prototype installed in Salt Lake City the week before last that will be the basis for the family that follows. For Unisys, the agreement provides a means to commercialise the next logical technology step up from multiprocessing, without all of the associated research and development costs. Other manufacturers, including IBM, HP, DEC, Tandem and ICL are all working on parallel system development - IBM should have systems out by year-end - while Teradata, part of AT&T Co's NCR unit, has already had some commercial success with iAPX-86 parallel database processor technology. Intel president Andy Grove said that Pentium-based supercomputers from Intel would eventually supplement rather than replace the 80860XP RISC-based Paragon machines (UX No 439) - and hinted that there would be further iterations of the 80860, although that might mean as little as doing it in finer design rules and winding up the clock. How big will Unisys' first machines be? Given the size of the market and the \$800 price of a Pentium, 1,000-processor models would not make commercial sense, and the firms say they won't know themselves for another six months until the system software they are developing firms-up.

USL TO CONTINUE, FOR NOW, AS UNIX SYSTEMS GROUP UNIT

Novell Inc executives were closeted in meetings last week at company headquarters in Provo, Utah, sorting out the organisational structure to be put in place behind their newly created superdivision, the Unix Systems Group (USG) (UX No 444). Reportedly for legal reasons, Unix Systems Laboratories, Novell's recent acquisition from AT&T Co, will continue to appear as though it were a free-standing subsidiary for at least a year. In practice, however, the unit will be tightly integrated with the other entities being moved into USG including Univel Inc, USL's erstwhile joint venture with Novell, Novell's own NetWare for Unix operation, its Connectivity Products Group and its Desktop Systems Group. It is believed Bob Davis, vice president and general manager of the Desktop Systems Group, will emerge from the meetings with responsibility for marketing. Mike DeFazio, executive vice president of USL, will be responsible for business and OEMs and Joel Applebaum, president of Univel, will get development. Andy Huffman, USL's vice president of distributed computing, could draw independent software vendors. However, a number of other slots are apparently open to him, including responsibility for AppWare, Novell's recently announced object-oriented application binary interface scheme.

NOVELL BACKS NEW CABLE TV TECHNOLOGY CHANNEL

Novell Inc is the first backer of a worldwide satellite-based television channel, the Technology Education Network (TEN), scheduled to be announced at InterOp on August 25. Satellite dishes will be installed at all of Novell's Platinum and Gold dealerships worldwide by October 1, when the network officially goes live, according to Andy Robson of Set Marketing On, the New York City public relations and marketing firm helping TEN line up sponsors. The network envisages producing a technology news format akin to CNN as well as commercials and chat shows running globally 10 hours a day five days a week. Novell is the first company that will be airing its own shows beginning with a program scheduled to run as a pilot on August 21 called "Rightsizing with UnixWare and NetWare," according to Robson. Novell has arranged for four hours of air time a week after October 1. Other companies such as Microsoft Corp are expected to follow suit.

COMPUTERVISION HAS CADD5 5.4 FOR HP-UX, NT, ALPHA AND OTHER PORTS TO FOLLOW

Computervision Corp has ported the newly-released version of its CADD5 range of computer-aided design and computer-aided manufacturing software - version 4.0 - to Hewlett-Packard Co's HP 9000 Series 700 Precision Architecture RISC-based Unix workstations. The Burlington, Massachusetts-based company also intends to port the product, aimed at the mechanical engineering market, to another hardware architecture by the end of the year - either the Mips Technologies Inc R series RISC, used by manufacturers like Siemens Nixdorf Informationssysteme AG, or the IBM Corp-Motorola Inc's PowerPC. A limited number of other Unix ports will follow later. A version for Microsoft Corp Windows NT is definite because Computervision's vice president of worldwide field operations Garreth Evans reckons it will become a serious contender in the workstation market. He could provide no timescales though. Computervision and Hewlett-Packard, calling themselves the "PowerTeam", will jointly market the bundled products, but customers will have two options when buying - Computervision will either supply them with both hardware and software; or clients can choose to buy the two elements separately if they can get a better deal on hardware elsewhere. The Series 700 workstations start at £4,240, and CADD5 5 version 4 software packages at £2,950. A fully configured system starts at £19,000. Evans said the firm decided to go with Hewlett-Packard because of customer demand, and the fact that "we need to back all major players". According to figures from market research firm Dataquest, Hewlett-Packard leads the field in selling workstations to mechanical engineers, commanding a 30.1% share of the market - the equivalent of \$545m - ahead of Sun Microsystems Inc at 20.5%. Furthermore, Evans claims, the superior graphics performance of Hewlett-Packard boxes means that "release 4 has made a quantum speed jump over release 3". This is important, he says, because better graphics performance "translates into better applications performance and a faster time to market". But Series 700 machines, he attests, also provide the "best price-performance with CADD5 ever". CADD5 5 also runs on Sun Sparcstations - Computervision generates approximately 85% of total worldwide revenues from Sun users; and Digital Equipment Corp boxes under Ultrix - the group is also in the process of porting the product to Alpha AXP workstations, although Evans says customers can expect to wait a couple of months for that. DEC-related sales comprise about 10% of total group turnover, the rest comes from existing Hewlett-Packard business.

30% growth

Customers here include the Ferrari and McLaren International Formula One racing teams and Volvo Flecht. And Evans believes, in the first year alone, the Hewlett-Packard deal will generate Computervision turnover of between \$30m and \$40m. He also believes that if demand continues at current rates, he can expect year-on-year revenue growth of between 30% and 40%. Hewlett-Packard's UK Computer Systems Organisation's marketing manager, Nick Earle, was less forthcoming, saying only that he expected "significant business" from the agreement. The company has one mechanical engineering CAD/CAM package of its own, but this generates only about 0.5% of worldwide revenues, perhaps 2%, if sold bundled with workstations, he said. So, Hewlett-Packard is obviously keen to exploit Computervision's large customer base - Dataquest says Computervision commands 20.5% of the European market - and broaden the range of CAD/CAM products it can offer. As for the new version of CADD5 5, Evans describes it as "the world's first unified product modeller" - the company has added 30 new applications to its existing 42, along with 104 new functions. As a result, CADD5 applications, he claims, now span the whole of the product development process, meaning manufacturers can design, build and test a complete product on-screen. The product comprises standalone but integrated task-based modules that enable customers to work seamlessly and concurrently with suppliers outside of their organisation. Engineers can capture ideas electronically, share them with other departments, for example marketing, and analyse any results before manufacture takes place. The modules also integrate with Computervision's Engineering Data Management software. The two most important new additions to the product are an intelligent sketcher, which enables engineers to sketch their designs two-dimensionally and then turn them into working three-dimensional parametric models; and a new graphics subsystem, based on the Hoops graphics development systems from Ithaca Software, which improves software performance in such areas as shading and the dynamic manipulation of shaded models. This subsystem will also make it easier to port CADD5 5 to other hardware environments.

ECOSYSTEMS TO RETAIN ITS IDENTITY

Mainframe diagnostic tools developer, Compuware Corp, sees its acquisition of EcoSystems Software Inc (UX 441), due to be completed on September 7, as a springboard for growth in the Unix systems management market. The merger will be carried out on a pooling-of-interests basis, but EcoSystems will retain its own identity. According to Compuware's European marketing manager, Peter Sedgwick, the Farmington Hills, Massachusetts-based group has been looking at ways of moving its computer-aided software testing tools over to the Unix world for some time - his customers, he says, "want to complement the productivity of their mainframes by a workstation environment", whether that be Novell Inc or Microsoft Corp Windows NT workstations, or Unix. And EcoSystems, he declared, "provides us with the architecture to accelerate development plans for CAST Unix tools, and gives us an immediate opportunity to sell product". EcoSystems, conversely, needed more sales channels and funds to continue growth. The Cupertino, California-based firm was set up in 1991 by two ex-Hewlett-Packard Co employees to try and solve the problem of how people could manage distributed Unix systems. It released its first products into the US in January 1993, but needed further resources to support growth, particularly in Europe where it has no presence. The company currently has about 25 customers in the US, including Burlington Coat Factory and US West. But Compuware, Howorth said, provided it with "an immediate infrastructure to distribute our products". Sales will be conducted in two ways: as an "adjunct" to Compuware's existing direct sales team; and via third parties, particularly systems integrators. EcoSystems vice president of sales and marketing John Howorth believes his products are "distinctive" because, he says, other firms, such as OpenVision Inc, offer only partial solutions - they generally deal solely with Unix systems, but don't have an integrated product set that can deal with all aspects of managing Unix data centre operations. But he claims, EcoSystems offerings can cope with all aspects of systems management, network management and database management - and in a heterogeneous environment "because no one is installing just HP or Sun or IBM" boxes in isolation.

EcoSphere

The "framework" or architecture is called EcoSphere. It is object-oriented and written in C. EcoSphere runs on any Motif-compliant Unix machine or "console", hanging off a node in the customer's TCP/IP network. Sitting in the EcoSphere framework are objects, or EcoTools, that have their own unique identifier or function. Functions include configuration management, fault and performance management, capacity planning, security management and management reporting. When told to by the systems/network/database administrator, these objects - which each have their own Internet Protocol address so they know which machine to go to - fly off down the network to their destination. There they perform their task and send information back to the console. If something has gone wrong, for example the CPU of a particular box may be running too fast, then the systems administrator can pre-set what corrective action he wants the system to take. Furthermore, EcoTools integrate with "physical" network management products, such as Sun Microsystems Inc's NetManager or IBM Corp's NetView 6000 because they use standard Unix remote procedure calls to communicate with the network products' SNMP interfaces. One of the major advantages of the EcoTools system, according to Compuware's Sedgwick, is that it drastically cuts down on personnel costs by providing the tools to address productivity problems. While Unix hardware and software may be much cheaper than their mainframe equivalent, systems management costs are much higher because staff are needed to look after each separate part of that system. Unix, Sedgwick added, "is just starting to grow up. It is facing the same productivity issues that mainframes experienced in the 1970s". This is, in fact, one of the major barriers to people downsizing, he declared. And Howorth reckons the market for these products is such that, by 1997 the group will generate about \$50m in revenues for Compuware - the latter's turnover was approximately \$235m in 1992. So far, EcoTools work with Oracle Corp release 6 and 7 databases, but EcoSystems does plan to port to both Sybase Inc and Informix Corp databases by the end of the year because these "are the most popular" and together with Oracle account for "about 80% of the market" for relational databases. EcoTools also support Sun, Hewlett-Packard, IBM, Sequent Computer Systems Corp, Intel Corp-based Santa Cruz Operation Inc, Pyramid Technology Inc and NCR Corp Unix servers, but Howorth says others will be added "based on customer demand". Although pricing of the EcoTools product depends on configuration and the number of users, Howorth said that a single server with "a small number of users" would cost about \$10,000.

IBM PREVIEWS FIRST POWERPC RS/6000 - UNIX EXPO DEBUT EXPECTED - BETA VERSION OF MACH MICROKERNEL DUE WITHIN 60 DAYS..

The first PowerPC 601 RISC-based machine was previewed by IBM Corp Advanced Workstations and Systems at the Siggraph '93 show in Anaheim, California last week. The PowerPC-based RS/6000 workstation was shown with an entry graphics adaptor that provides two-dimensional graphics performance and with full software-enabled advanced three-dimensional graphics function. Reports say IBM will introduce the PowerPC desktops at this year's Unix Expo show in New York in September, with entry-level prices starting at between \$9,000 and \$12,000 and delivery slated for the first quarter of next year. The firm is also thought to have a portable PowerPC machine up its sleeve which it'll debut at the same time. Whether the systems will be able to support Apple Macintosh applications under the AIX-derived PowerOpen operating system environment they'll run remains unclear. Although application binary interface hooks for Mac compatibility are built into the PowerOpen architecture - which all PowerPC alliance firms will get - Mac application services compatibility needed to run Mac applications will only feature as an option and not all PowerOpen firms are expected to deliver it as part of their solutions. PowerOpen is part of IBM's planned Unix with Workplace operating system family and is based upon the firm's Mach-based microkernel, due to go into beta testing within 60 days. The microkernel is at the heart of IBM's entire planned Workplace OS operating system series, of which Unix with Workplace is one product component. The beta microkernel includes a Unix development environment, but not full-blown Unix with Workplace. A version of Workplace OS is due on Intel Corp platforms running OS/2 next year. IBM also showed RS/6000-based multimedia extensions built on its Audio Capture and Playback Adaptor, being used as an audio editor and a movie editor.

...KEEPS OTHER PLANS FROM CUSTOMERS

Microsoft Corp boss Bill Gates may not have made the impression he wanted at his financial analysts meeting the week before last but IBM Corp chief Louis Gerstner apparently made a worse one when he met with the financial press following his announcement of an \$8bn loss and plans to lay off perhaps another 60,000 people. It wasn't so much the size of the loss or the job slashing that went down badly but the fact that these were all Gerstner had to offer. Asked by journalists from papers like the *Financial Times*, *The Wall Street Journal* and *BusinessWeek* about his vision for IBM, Gerstner said he didn't have one - and didn't need one. When it was suggested that he should lay out some sort of future roadmap to IBM's intentions, he apparently said he didn't want to give away IBM secrets to the competition. When it was suggested that IBM customers might actually want to know what's going on, Gerstner said that they were happy with IBM's "technology leadership" and wouldn't be interested in the nuts and bolts of IBM's future technology strategy. The slack-jawed reporters were staggered at the news and left with the impression that Gerstner knows how to cut jobs - but still has a lot to learn about the computer industry.

WYSE TO OFFER MULTIPROCESSING CHIP AND BOARD SOLUTIONS

Wyse Technology Inc, San Jose, California, will today, Monday, layout plans to take its symmetric multiprocessing strategy to one further level of abstraction by offering chip sets and board-level components of its Series 7000i systems to OEMs and systems integrators. Wyse's Flash/MP CPU board chip set provides control logic for a copyback cache and an interface to its Wyde bus system, and includes cache controller and bus controller units. The Flash 701 error detection and correction memory board chip set manages the memory interface to the Wyde bus and controls the EDC logic. It comes with an address unit, bus controller and Wyde bus buffer chips. The Flash 702 chipset provides connections from the EISA bus to Wyde bus and comes with a system board control unit, bus controller unit and Wyde bus interface. A board set with the CPU board and EDC memory starts at \$7,300 - a Flash/MP chip set costs from \$800. The Wyde bus supports up to five 66MHz Intel Corp 80486DX2s and is Pentium-ready. Wyse supports Unix System Labs' Unix SVR4, Santa Cruz Operation Inc MPX and Microsoft Corp Windows NT.

STRATUS EXPANDS FAULT-TOLERANT UNIX SERVER FAMILY...

Stratus Computer Inc, Marlborough, Massachusetts has added seven Intel Corp 80860XP RISC-based XA/R-S fault-tolerant servers running the Stratus FTX fault-tolerant Unix operating system. They replace five existing XA/R models configured with its FTX Unix SVR4 implementation, and extend the family by two new models. Still available within the original XA/R product family are the five low-end and mid-range models configured with the proprietary VOS, and five high-end systems that can be configured with either FTX or VOS. The XA/R-S systems include, at the low end, the XA/R Model 5-S, Model 10-S and 15-S; and the mid-range, XA/R 25-S, 35-S, 45-S and 55-S. The XA/R-S Systems provide up to twice the memory and disk capacity and twice the input-output of previous XA/R Series systems by adding two new board slots. The low-end entry price is cut to \$69,000 - £60,000 - the mid-range entry price to \$147,000 - £127,000 - for up to 50% better price-performance. Four physical 80860XP microprocessors are used to create one logical fault-tolerant CPU. The 10-S and 35-S incorporate duplex 48MHz 80860XP microprocessors. The 15-S and 45-S use a symmetric multiprocessing design with two logical 48MHz 80860XPs on one board. The 55-S has four logical 48MHz processors on two boards. The low-end models support up to 256Mb of duplex main memory and 26Gb of duplex disk. The mid-range take double. Stratus also introduced its fault-tolerant implementation of System Network Architecture - licensed from IBM Corp - and XCOM file transfer software under the FTX Unix.

...PLANS SOFTWARE AND SERVICES ACQUISITIONS

In the next two to six months Stratus Computer Inc intends to branch out into the software and services arena through a combination of acquisitions, licensing pacts and joint development agreements with other vertically oriented concerns that are targeting telecommunications, financial and travel as well as perhaps gaming, healthcare and distribution. Three to six acquisitions of firms doing anywhere from \$5m to \$25m in revenues are currently under consideration. Two will probably occur this year with the others delayed to give Stratus time to digest the first ones. Stratus will use the \$173m it has in the bank to make the acquisitions and will not run up any debt. The move is part of a multi-pronged effort to climb back to double-digit growth by 1995, having grown only 8% last year and losing points on its gross margins. These plans could see the Stratus FTX 2.2 SMP version of the Unix operating system, currently leveraged only on Stratus hardware, moved to other platforms. It also intends to broaden the scope of its vertical market portfolio and move high-availability techniques from the hardware to encompass middleware, applications and services.

HITACHI TO DEBUT 120MHz PA RISC

Three years after licensing Hewlett-Packard Co's Precision Architecture RISC chip, *Microprocessor Report* expects Hitachi Ltd to unveil a 120MHz PA implementation this month. The part is not aimed at the low-cost, high-volume market, however, and is unlikely to start a wave of PA-RISC clones.

CHIP PANIC TO INTENSIFY AS EPOXY STOCKS DWINDLE

Look for another leap in the spot price of memory chips and a few more thousand people deciding that they'll wait a few months before trying out Windows NT. According to *Reuter*, Sumitomo Chemical Co Ltd says it is having trouble finding a new source of supply of the epoxy resin used in the chip encapsulation process following the explosion and fire last month at its factory in western Japan, which cut off 60% of the world's production of the epoxy resin, which Sumitomo reckons is used in about 80% of all chips. Most companies have one or two months supply of the resin, as does Sumitomo Chemical itself. But it says it does not yet know when it can resume production - it had been put at at least six months - and that there will be a problem when the stocks run out. "After October we should get to the bottom of our stocks," Hitachi Ltd said. Sumitomo has already arranged to procure over half its usual output from other Japanese producers but has still not found any further sources. It has asked Dow Chemical Co, which used to make the resin but closed its plant in 1991, to restart production, but Dow says it is reluctant to do this - it stopped production because it was unprofitable and says resuming would cost between \$3m and \$5m, and that it will start up again only if Sumitomo agrees to buy five years' output, something Sumitomo is not keen to do. The resin is a standard compound, so producers could not differentiate their epoxies, and a price war in the late 1980s left Sumitomo Chemical as the only major survivor - and for the sake of economies of scale it took the risk of concentrating its production in one factory.

IMP HAS NEW FAULT TOLERANT MACHINE FOR MOTOROLA UNDER WRAPS

Integrated Micro Products Ltd, which now goes under the name IMP Ltd, plans to make a major announcement in the next few weeks which will detail the latest fruits of its development partnership with Motorola Inc, tipped to include a new customised fault tolerant Unix system. Based on IMP's OpenFT3 fault-tolerant technology, the processor will be aimed primarily at the telecommunications market and run Unix SVR4 rather than the firm's preferred operating system Unisoft Ltd's Uniplus. And says marketing manager, Dick Penny, there will be "lots of new things happening in the next six months". Motorola is the Consett, Co Durham-based firm's number one OEM customer (UX 368) - it works with three separate divisions, which are essentially the size of individual companies, selling both standard IMP boxes and customising them to deal with specialised tasks. IMP also supplies product to NCR Corp and has some other OEM deals in the pipeline, although Penny said he could supply no further details until these were "cemented". The company generated approximately 80% of its £5m turnover last year in the US, a "negligible amount" in the UK because of the underdeveloped state of the European network services market - IMP does not sell its products direct, so what its products are used for depends on its OEM partners - and the rest in Japan. But Penny expects to double turnover year-on-year over the next few years in the wake of the announcement and by taking new customers on board.

VXM OFFERS NEW FAULT TOLERANT LOAD BALANCING SOFTWARE

VXM Technologies Inc has announced PAX-2 2.0, a \$9,500 fault-tolerant release of its dynamic network load balancing software with the GNU Make software included. Users are now able to run GNU as a parallel distributed make across multiple networked Sparc, RS/6000 or Silicon Graphics machines. VXM says it makes building large applications less time-consuming and can be used to create distributed batch processing Unix clusters for applications downsizing. It says an NT version for Alpha and MIPS-based systems is in the works. The company has also introduced a special-purpose variant that just does distributed parallel makes, PAX-2 Make, selling for \$4,950 for a 40 concurrent user license and covering 50 network nodes. +1 617 267-2286

SUN STILL FAILS TO CONVINC THE ANALYSTS

Sun Microsystems Inc never gets a very good press on Wall Street, and despite surprising the market with a much better than expected fourth quarter performance (UX No 447), it still faces enough obstacles to make many analysts wary about recommending the stock, *Reuter* reports. Competitive pressures and slower sales growth in Europe and Japan have combined with the usual concern about Sun's inconsistent execution plan, analysts say. "The international economic climate is still uncertain and the company has a difficult road ahead," said Phil Rueppel at Alex Brown & Sons. He keeps his neutral rating and low 1994 estimate of \$2.15 per share. Sun earned \$1.49 per share in fiscal 1993.

Efficiencies

Rueppel said the fourth quarter result was not so much an anomaly as an indication that Sun is currently in the heart of a new product cycle, and volumes and efficiencies benefit accordingly. Steve Smith at PaineWebber, a bear with an "unattractive" rating, cited competition against Sun's Sparc chips from Intel Corp's Pentium as well as from the workstations from Hewlett-Packard Co and Digital Equipment Corp. But Kevin McCarthy at Mabon Securities believed competitive pressures have eased, and may not pick up again until early 1994. Vendors are picking up market share now without infringing on each other too much, but they may start to butt heads then, he said. Jim Reynolds at Wedbush Morgan Securities said Sun had the internal structures in place to cope with competitive pressures, and that any warring would not get as lethal as in the personal computer market. The only analyst with a buy rating, out of six surveyed by Reuters, was Laura Conigliaro at Prudential Securities. She holds her 1994 estimate of \$2.60 per share and says the results indicate that "when things are going well, you can produce unusually good results, especially if the company is as in control as Sun seems to be." But orders were lower than she expected, and if any firm was going to hit problems it would be Sun, she said.

OPEN VISION ACQUIRES CONTROL DATA's ARIA - OpenVision Inc, Pleasanton, California, the highly-leveraged systems management software start-up, has acquired the Aria Suite of storage management products from Control Data Systems Inc on undisclosed terms. As part of the acquisition, it will absorb the software engineering team comprising about 20 people and establish a new OpenVision office in Minneapolis, Control Data's home base. It also gets operations in the UK and Germany. Control Data will continue to sell Aria and support its systems integration customers. It will also become a value added reseller. The Aria Suite products, the purchase of which OpenVision said saved it 18 months of effort, cover hierarchical storage management, backup, migration and volume management. They are available in various distributed configurations and join OpenVision existing OpenV*Archive, CopenV*Backup and Unitree. OpenVision is reportedly also proposing that COSE adopt a standard install as part of its Common Desktop Environment, and use its technology.

RECRUITS MARKETING VP FROM UNIVEL

Meanwhile, OpenVision has recruited Rebel Brown away from Univel Inc to serve as its director of strategic marketing under a senior vice president of corporate marketing who has yet to be named. Brown had been with Univel all of two or three weeks having just moved to California from a similar post at Univel's sister operation, Unix System Labs, in New Jersey (UX No 446). Her arrival there as director of marketing saw Univel's vice president of marketing Arun Tenaja leave, and her departure in turn leaves both Univel and Novell Inc a little short of talent well-versed in Unix. OpenVision, which is backed by \$35m from a single venture capital source, Warburg Pincus, is making a play to capture as much of COSE's systems management requirements as it can.

ETRE SET FOR BARCELONA

ETRE, the European Technology Roundtable Exhibition, will be held in Barcelona on September 9-11. It's an opportunity for all the big-wigs in the business - and those who enjoy mixing with them - to get together. This year the attendee list is supposed to include brand names such as Microsoft's Bill Gates, IBM's RJ Corrigan and Nobuo Mii, Borland's Phillippe Kahn, Silicon Graphics' Ed McCracken, Olivetti's Elserino Pfol, The Tyme's Chuck Peddle, USL's Roel Pieper, a bunch of top-flight venture capitalists and the creme de la creme of the press. It's pricey, but can be useful. +1 415 321 5544

MICROSOFT RALLIES SUPERCOMPUTER DESIGNERS

Microsoft Corp has been hiring supercomputer engineers - not to get into the supercomputer business but to apply their skills and techniques to the problems of bringing computer power to the consumer market. According to the *New York Times*, the company hired Craig Mundie, founder and chairman of the now-defunct Alliant Computer Systems Corp last December to head a new advanced consumer technology division, and in April and May, Mundie took on six hardware designers from Steve Chen's failed Supercomputer Systems Inc. The feeling at Microsoft is that radically new hardware architectures will be needed to control the embryonic interactive television business: they will have to approach supercomputer performance, while costing no more than a few hundred dollars to build. "We are at a point where the computer industry has a chance to push the reset button and start over," Mundie said, explaining why Microsoft should want supercomputer designers: these guys "have lived at the limit."

APP EFFORT GETS ORACLE ONTO INSIDE TRACK IN CENTRAL EUROPE

Prague systems house APP Group is confident it can maintain a role as Oracle Systems Corp's key partner in the Czech and Slovak Republics even after Oracle sets up a direct presence in the countries and takes over responsibility for licensing, according to APP chief executive Eduard Mika. APP turned over \$27.2m in 1992, around 20% of which involved Oracle software and the installation of over 200 servers, and the firm is the only East European systems house to have secured significant PHARE-backed government accounts. Mika claimed that the legal relationship with Oracle would not change before 1994 at the earliest, even if Oracle did establish a direct presence before that date, and claimed the company had secured a position as an Oracle reseller and solutions provider to Russia, the Ukraine, Bulgaria and Hungary, where it opened subsidiaries at the end of last year. APP also signed an pact giving it marketing rights to Oracle Financials earlier this month, confirming its status, Mika asserted. APP Group is now seeking to establish relationships with Western consultancy firms to spearhead its next development phase. The aim is to earn half its revenues from services by 1995. Mika stated that APP would "definitely not" support other databases in the foreseeable future. He commented: "Sybase still has six support people for the whole of Europe; Informix's strategy is to sell and forget."

TERMS FOR DME SERVICES DUE AT INTEROP

Despite its somewhat insecure looking future, the Open Software Foundation says pricing and licensing terms for its Distributed Management Environment services will be announced at InterOp on August 25th. The DME services are software distribution, print management, license management, event service, subsystem management, and personal computer services. They are derived from technologies supplied variously by Hewlett-Packard Co, Gradient Technologies Inc, Massachusetts Institute of Technology and Wang Labs. Availability and terms for the print management component will be announced next year. OSF says the third snapshot of DME code, released last month, included functionally complete distributed services code, and it says that most of the development work over the past year has been focused on integrating DME services with its Distributed Computing Environment. The overall future for DME, however, remains as unclear as it was last time we asked about its status: unknown (UX Nos 434, 442). Talks are apparently still going with IBM Corp, which is supposed to be doing the integration work that OSF can't manage. Timescales are slipping. Indeed, why, observers ask, do Common Open Software Environment firms - including OSF founders IBM, HP and DEC - have systems management technology on their development agenda, if DME is progressing as planned? Some say OSF is in trouble in its struggle for the technology.

DU PONT HAS NEW SBUS BOARDS

Du Pont Co's Du Pont Pixel Systems has announced its second generation of SBus boards, GLengine-24XP and GLengine-48XP, which, it claims, double the performance of its Sparc-based PX/IRIS GL three dimensional library. The boards enable users to port three dimensional applications from a Silicon Graphics Inc workstation to a Sun Microsystems Inc machine "without compromising speed or quality". They also provide developers with colour 24-bit graphics, a 4-bit overlay and double buffering in a dual slot SBus format that plugs directly into their Sparcstations. Moreover, the GLengines accelerate X Windows to ensure that windowing performance doesn't deteriorate when customers use three dimensional graphics. They are compatible with Sun's Solaris Visual architecture and run all standard Sun applications. Prices start at \$5,500 or £4,700 and shipment will start in August. Meanwhile, Sun has said it will help Du Pont Pixel port a Sparc-optimized version of Silicon Graphics' freely licenced OpenGL application programming interface to Sun's Sparcstation ZX and Sparcstation 10ZX. The aim is to exploit the three dimensional graphics accelerator - a dual slot SBus card - incorporated in the machines to speed up computer-aided design and other graphics applications. The first fruits of the agreement are expected in the fourth quarter of 1993.

NEW ADAWORLD FOR HP BOXES

Thomson-CSF SA's Alsys Inc has released a new version of its AdaWorld applications development environment for Hewlett-Packard Co Apollo 9000 Series 700 and HP 9000 Series 800 workstations and servers. AdaWorld 5.5.1 has a Motif-based graphical user interface, is available now and costs \$7,500 per user. It is compatible with HP UX versions 8.X and 9.0. At the same time, Alsys announced it has now been appointed as a value-added reseller of Hewlett-Packard's SoftBench computer-aided software engineering toolset worldwide.

LOTUS NOTES FOR UNIX NOW SHIPPING

Four years after Lotus Development Corp began shipping its personal computer-based Notes groupware product, it has finally decided to make it available under Unix. An unnamed tester's prognosis was, "It is wicked slow, but it is not real buggy". Lotus Notes for Unix should be available by the autumn on Hewlett-Packard Co's HP/UX, Sun Microsystems Inc's Solaris, the Santa Cruz Operation Inc's SCO Unix and IBM Corp's AIX. No pricing was available.

JMA DEBUTS CLIENT/SERVER VERSION OF IEF

Ashford, Kent-based JMA Information Engineering Ltd has launched a client-server version of its Information Engineering Facility applications development environment, which it claims generates "complete client-server applications across multiple platforms and application styles". IEF will be available on Hewlett-Packard Co's HP 9000 Unix servers running an Oracle Corp database as of September 15; Sun Microsystems Inc's Solaris as of December 15; and Tandem Computers Inc's Integrity, Sequent Computer Systems Corp's Symmetry and IBM Corp's RS/6000 from the first quarter of 1994. Client environments will be Microsoft Corp's Windows, IBM's OS/2 and Motif-based Unix boxes. A development licence for five users is approximately £130,000. From October 1993, the company will also formalise the agreement made with Texas Instruments Inc on takeover three years ago, and change its name to TI Information Engineering.

SUNSOFT LAUNCHES NFS VERSION 3

Sunsoft Inc has launched Version 3 of its Network File System, the long awaited iteration of its network computing protocol. NFS 3 is essentially the latest revision of the industry standard file system, NFS, and is a key component of SunSoft's ONC networking technology. It is claimed to significantly improve the performance, reliability and scalability of ONC+ in enterprise network environments, providing enhanced security and support for high bandwidth networks and multi-gigabyte files. Additional capabilities include local disk caching, a new automatic mounting facility and support for sharing files over wide-area network protocols such as TCP/IP. Moreover, several computer manufacturers have already said they will use the technology. These include Cray Research Inc, Digital Equipment Corp, IBM Corp, HaL Computer Systems Inc, Hewlett-Packard Co, and Sun Microsystems Inc. DEC, HaL and IBM are said to have successfully tested their NFS Version 3 implementations for interoperability at the Connectathon 93 Testing Event in San Jose last week. The NFS Version 3 specification is available immediately free of charge, via the Internet Server at "ftp.uu.net", "gatekeeper.dec.com" or "bcm.tmc.edu.", but implementations will be generally available in 1994.

SUNSOFT RALLIES ONC+ LICENCEES

SunSoft Inc has agreed to licence its ONC+ networking technology to several leading computer manufacturers. These include Fujitsu Ltd, Samsung Electronics Co Ltd, Sony Corp, Toshiba Corp and Cray Research Inc. This means that the transport-independent remote procedure call library will become available on hardware ranging from personal computers to supercomputers. ONC+ has also been adopted for use in the Common Open Software Environment and is licensed by the Santa Cruz Operation Inc and Unix System Laboratories Inc.

MICRAM HAS NEW INTERFACE BUILDER

Micram Microelectronic GmbH, which has distributed Objectivity Inc's Objectivity database since January in Germany, has launched Classify/DB, a graphical user interface builder for use with the database. Classify/DB enables users to take graphical objects generated using General Electric Corp's OMTool and CentreLine Software Inc's OI library and automatically convert them into objects that can be used as a front end to Objectivity databases. OMTool is best used for formal analysis and design methodologies, such as Rumbaugh and Coad-Yourdon, while OI library provides a less structured but very graphical front end. Support for Visual Edge Software Ltd's UIM/X Motif graphical user interface builder should also be available later this year. It will be possible to buy Classify/DB from Bochum, Germany-based Micram from September, but Objectivity plans to sell it too by the end of the year. Prices have not yet been decided.

INTERBASE 4 DELAYED FOR EXTRA PORTS

Borland International Inc has delayed the release of InterBase 4.0, its Unix relational database, until the first quarter of 1994 to add support for Microsoft Corp Windows NT, Next Computer Inc NextStep, and DEC Alpha OSF/1 and OpenVMS platforms. The company, which originally promised the database for mid 1993 (UX No 414), says it has had to completely rewrite InterBase source code to incorporate Microsoft Corp's Win.32s application programming interface. This has put back delivery dates by more than a year. The other operating systems were relatively easy ports, the firm says. Release dates were also affected by Borland's corporate restructuring initiatives. The firm created a client/server division to house its database products, InterBase and Paradox, in May (UX No 434). In the meantime, Borland says version 4.0 will include improved SQL triggers, store procedures and syntax functions in line with ANSI SQL3 specifications. Greater multiuser support and improved facilities for disk mirroring and backup and restore are expected. Borland also developing a Paradox-based front-end for InterBase. (Paradox is the firm's personal computer-based database). InterBase currently supports Sun, HP, DG, IBM and SGI boxes.

NEW SEIKO NETWORK PRINTING SOFTWARE

Seiko Instruments Inc has released a new network printing software application for Unix workstations, CHCOPY, which supports both Motif and OpenLook windowing systems. CHCOPY runs on Sun Microsystems Inc Sparcstations, Hewlett-Packard Co HP 9000 Series 400 and 700, IBM Corp RS/6000, Digital Equipment Corp Ultrix and Silicon Graphics Inc machines. It enables users to control all adjustments they need to make to the printer from their workstation, and is available now via Seiko resellers and the Vision Group of computer graphics peripherals resellers in the US. It costs \$1,000 for a single user licence, \$2,000 for a 10-user licence and \$3,000 for a site licence.

X/OPEN AND THE UNIX INDUSTRY'S ANSWER TO THE WINDOWS ENVIRONMENT

By William Fellows

CDE to be branded as whole and logical components

The X/Open Co will be receiving Common Desktop Environment specifications from the Common Open Software Environment firms in four stages over the course of the year (UX No 445). Specifications for "stable" code, such as the Sun Microsystems Inc ToolTalk messaging system were delivered last month. Open Software Foundation Motif and X Windows X11R5 components are expected to be delivered this month. The remainder - and the bulk of COSE's interface environment - will be submitted in two tranches, in mid-October and mid-November, to ensure that X/Open's CDE working group reviewers do not get swamped. Although COSE firms claim anything between 80% and 90% of CDE code already exists, much is not stabilised in terms of how different components of the interface will interact with each other. There is a certain amount of non-trivial integration work to be done and X/Open expects that some pieces of COSE's proposed interface will change so they don't look like the original, as they are integrated into the CDE specification. The pre-review phase will take until the end of the year to complete. This process, administered by the 18-strong CDE working group - which includes more X/Open shareholders than any other at present - is considering CDE specifications in separate pieces. However, when the process to fast-track CDE as an X/Open standard begins next year - due to be completed by mid-1994 - only a fully-integrated CDE environment will be able to go forward for branding. X/Open's normal voting procedure will apply here, and out of the 18 members eligible to vote on the fast-track process - not the same 18 that make up the CDE working group, and not all shareholders - there must be a 75% majority, or 14 in favour. Before the vote takes place, COSE must put right whatever the X/Open review team finds lacking, and address whatever recommendations X/Open's User Requirements Group might make to CDE (UX No 445). That may mean anything from replacing something in CDE that fails, or reworking the specification itself to omit words and descriptions that X/Open deems unacceptable for use in a standard specification (which may be fine for a product specification), such as "or" or "might." X/Open admits that it will end up branding what it calls "logical components" of CDE separately, but only those that users and vendors may require independently of the integrated CDE, such as Motif and X Windows. COSE firms are also contracted to fund the process of pre-review and fast-tracking CDE - X/Open says this will be less than the \$225,000 quoted in some quarters.

CDE is Unix rival to Windows

The way X/Open regards CDE is similar to, if not the same as, COSE's positioning of its interface environment. It's just that the COSE firms are shy of describing publicly what they fully intend CDE to become: namely an interface with a bundled application and services environment that can compete directly with Windows and Windows NT front-ends. Windows includes an integrated application set. At the moment, Unix interfaces don't, and that's what COSE is trying to build. "People see Motif as standalone, therefore it is different in its acceptability vis a vis Windows," says X/Open. In X/Open's view, COSE is being very careful not to publicise the fact that it is either trying to catch up or compete directly with Windows, because of the negative perception of CDE that this would create.

Interface standardisation needed right market conditions

X/Open thinks the scepticism with which sections of the user community have greeted COSE (UX Nos 440, 445) is the result, to some extent, of COSE appearing to be doing little more - where CDE is concerned - than coalescing or normalising what is already there, like X Windows, Motif, ToolTalk and so on. The involvement of X/Open and its expected standardisation on CDE is therefore not nearly as important to users as it is to vendors, although there are obviously separate agendas at work.

Whilst users have been calling - unsuccessfully - for X/Open to adopt an interface standard for the last four years, most have gone off and adopted fairly standard front-end technologies in the meantime, such as Motif, X Windows and one of the several desktop managers on offer. The vendors, on the other hand, have been engaged in a battle royale to establish their respective interface technologies and have obviously been unwilling - given the amount of resources spent on development and marketing - to concede to any compromise position, let alone defeat. It has, in X/Open's view, taken the surrender of Sun Microsystems Inc with its Open Look interface to the combined forces of Motif, to bring about the possibility of a standard interface environment for Unix. In turn, X/Open - supposedly champion of users' requirements - defends its inability to have acted on the issue until now, saying that by the time it was called on to look at what standardisation could be achieved in the area, vendors were already too far differentiated and entrenched in their positions to bring about consensus and agreement needed for standards-setting. It claims it knew long ago - and it uses a graph depicting the development, marketing and adoption of the technologies to show how - that it wouldn't be able to settle the interface issue until the positions of the vendors had moved beyond differentiated development and the battle for hearts and minds had been won or lost. Moreover, given that the main players in the market were, and still are, vote-casting X/Open members, a majority decision on any one of the interface options would have been impossible to achieve. After all this, users understandably remain sceptical: "only the final delivery of a CDE product will reassure them," believes X/Open.

"Pre-Alpha" CDE code promised for developer conference

X/Open insists that there will be deliverables by the time of the CDE developers conference in October, described as "pre-alpha" code (but will it be much more than a Motif toolkit?). X/Open believes CDE will succeed by dint of the number of company vice presidents and other executives that are putting their resources and reputations behind the effort. However, others observe that many also lent their support to the failed ACE initiative. Moreover, Novell Inc's position in COSE via its Unix System Labs and Univel Inc units looks anything but secure - some say that it will retreat from the thing altogether, although other events - see front page - seem to have superseded that eventuality. Other imponderables include who is actually going to build a CDE version of Motif.

CDE "is easy" compared to the rest of COSE

In comparison to the rest of COSE's technology objectives - networking, graphics, multimedia, object technology and systems management - CDE "is the easy one," says X/Open. For a start it will be different firms that drive these other efforts and supply technology. X/Open welcomes Santa Cruz Operation Inc's initiative on systems management, and Digital Equipment Corp's role in driving a federated naming service for networking that will allow Sun Microsystems Inc's Open Network Computing+ and Open Software Foundation's Distributed Computing Environment to interoperate. However, it thinks that it is the timing of these initiatives more than the technology itself, which is crucial. If agreement and consensus on the use of standard component technologies can be reached before firms stake too much on developing their own complete and differentiated technology solutions that address the same problems, then the time and resource-consuming battle for market share can be avoided to some extent, X/Open believes. The group claims it has already proven pre-emptive action of this nature can succeed, citing the example of its preliminary on-line transaction processing standardisation effort, which has seen the adoption of peer-to-peer environments (like IBM Corp's APPN), ATMI (effectively Unix System Labs' Tuxedo TP monitor) and TX RPC (from OSF DCE) as OLTP standards.

X/Open and CDE - continued**other groups look to COSE role model**

Other companies have come to X/Open saying they'd like to formulate COSE-like initiatives for the fast-track process in other technology areas. X/Open says it welcomes these efforts but has warned interested parties they need to attract broad industry agreement before it'll talk shop. Companies trying to establish standards for document interchange via the Brussels-based Open Document Architecture consortium have, for example, approached X/Open, but have been told that they need to do much lobbying and industry consensus-building for their proposals before their request can be examined in any detail. COSE's strength is that it has won industry-backing for CDE, and is being put together by a small selection of suppliers. The more firms that become part of a technology supply and development initiative, the less likely it is to succeed, says the standards group.

Beyond CDE

X/Open won't say whether it thinks COSE will stop at CDE, or deliver on any of its other technology goals, but is keen to talk-up the fact that CDE is existing technology. Systems management could work if lots of vendors join in the effort to agree on a handful of technologies that could go forward into such a framework. It observes wryly that if the Open Software Foundation's Distributed Management Environment was proceeding to plan, then COSE wouldn't need to have systems management on its agenda. Moreover, although some observers believe the notion of a common Unix kernel is still around (UX No 445), X/Open doesn't hold too much store by them and argues that the real problem is being able to move applications and users to what ever system software environment predominates. "You don't need a common kernel," it says, "it is about not alienating users - that can be achieved with interfaces," see front page).

Happy to work with other standards groups

X/Open has no hang-ups about other groups doing specification work, and is happy to take specifications from them where they are defined for technologies X/Open hasn't addressed. "In fact all the better," says X/Open. "X/Open has limited resources and as long as users' needs are met, that's fine," it says. X/Open, it says, should be regarded as a policeman of the industry, ensuring that users get and can use technologies that conform to certain requirements that are in their interests. Moreover, it is there to show users how they can move from proprietary to open systems and how, by insisting on X/Open standards in procurement procedure, they can limit the chances of their strategy failing.

Consolidation and change

Consolidation within the industry, now expected as soon as next month - see front page and UX No 447 - will bring changes, and X/Open itself will change too "with absolute certainty," the group declares. X/Open "won't survive in its present form," and will become much more focused on the commercial side. "In the 1980s, X/Open was a vendors' club," it remarks, saying that 25% of revenues now come from the user community and that users are coming to it not because of the marketing opportunities and leverage that membership brings, but because of the value it says it is able to provide.

MULTISOFT MAKES ITS MARK IN CZECH AND SLOVAK REPUBLICS

Multisoft Ltd, the UK supplier of modular accounting packages, has officially launched the Czech version of its Premier Plus product. The local language version was developed by the London-based systems house Fastnet Systems Plc, which operates in the Czech Republic through a joint venture, Fastcom - a company that has been active distributing hardware in Prague since 1991 and turned over around \$1.8m in the country last year. The other owners of Fastcom are locally recruited Czech management. Fastnet managing director Stephen Pinning claimed that translation and localisation work on all the main modules and manuals has now been completed and five packages sold, though users may need to wait until next year for the availability of complex modules, such as the manufacturing unit. Speaking at the launch, Multisoft managing director Tony Nicholls said that the firm's next major release, code-named Ultra, would be brought to the market on schedule in 1995. The client-server package will feature support for Apple Mac, MS-Windows and X terminal front ends with data stored in a standard database-independent SQL format. The package will have full recovery and improved resilience, according to Nicholls and will also include electronic data interchange facilities and user tailorable forms, making future localisation work easier, he said. Fastcom is likely to rely heavily on the local branches of international consultancy firms to help sell the product into medium-sized Czech businesses.

SPAIN, SIXTH LARGEST EURO-COMPUTER MARKET, SEEN GROWING 5% THIS YEAR

According to EITO, the European Information Technology Observatory, the Spanish computer sector will grow by more than 5% in 1993. In terms of business volume, Spain is now the sixth most important European market for information technology, and between 1990 and 1992 only two other countries in Europe showed a higher growth rate. It is calculated that the Spanish market will reach \$7,354m in 1993, EITO predicts that between 1992 and 1994, the market will grow 7.4%; hardware will grow 5.5%, communications hardware 5.3%, software 12.2% and services 12.1%. Only large systems and professional personal computers will show a decline - of around 1% in each case. Between 1992 and 1994 the market for workstations will grow by 46%. EITO comments that in 1992 Spain's software and services sector was held back by restrictive telecommunications regulations, low levels of investment in research and development, underdeveloped distribution channels, and pirating of software. EITO sees good potential for growth there, although the effects of cuts in government spending will be noted in the short term. The report also points out the prevalence of small and medium-sized companies in the Spanish business world, since very few companies in Iberia appear to be in the market for large mainframes.

ASK CREATES A NEW ASK GROUP JAPAN AND MERGES INGRES JAPAN INTO NEW COMPANY

Ask Computer Systems Inc, Mountain View, California, has set up its own Japanese subsidiary, Ask Group Japan, and merged it with Ingres Japan. Casey Lehmann has been appointed managing director for the new company. The move was thought desirable in order to increase the capitalisation of the Japanese subsidiary and increase recognition of the company in Japan. Relationships with distributors and dealers of Ingres will continue and with the new structure, the Ask group hopes to expand its sales in what it calls the fastest-growing open systems market in the world.

SINGLE CHIP SPARCS WITH 24-BIT GRAPHICS ON BOARD BY 1995

SunWorld Expo/Tokyo was held recently in the Makuhari high-tech satellite city an hour outside Tokyo. With 166 exhibitors and over 40,000 attendees, the exhibition attested to the strong position of Sun Microsystems Inc in the Japanese market for workstations. In its last fiscal year, a full 21% of Sun's revenues came from Japan. This year the conference, held concurrently with the Expo, featured speakers such as Andy Bechtolsheim, low-profile co-founder and vice-president of technology at Sun, and Alex Osadzinski, vice-president of marketing and product strategy. In his keynote address, Bechtolsheim predicted CPU speeds up to four times faster, and up to 1,000 times the system capacity and scalability for systems by 1995. With 60MHz SuperSparc chips in the laboratory, 70MHz speeds available by the end of this year and 100MHz chips due out next summer, with 250SPECmark UltraSparc in the offing, Sun hopes to make up for lost time against the competition. This development is assisted by a new Sparc design centre which opened on July 1, headed by Kevin Melia, with 300 design engineers working on both enhancements for SuperSparc and the next generation of microSparc. Other developments in the pipeline include 100Mbps Ethernet local networks, and wireless interconnection, which will extend the network to mobile users. In the network field, fibre optic channel ISDN is also being anticipated but advances in switching technology are still required. Also previewed were moves to integrate colour capability into one chip - currently there are five chips being used in a typical Sparc unit. By 1995, 24-bit image processing from single chip microprocessors with levels of performance as good as today's add-on accelerators will be available. According to Bechtolsheim, Sun needs to get back to its real culture - the culture of a start-up. For a while, he says, Sun was being too "religious" about software standards issues, a stance which he believes was anathema to Sun's customers. Now Sun should focus on catching up in its SuperSparc technology, and other new technologies such as multiprocessing and super-scalar performance. In response to questions about how the Sun visionary spends his time, he said that 80% goes to future products - two to three years out; 10% to technology beyond two to three years out - such as Project 2000, which is challenging the fundamental physical limits of chip design and aiming at 1nS CPU cycles by 1999; and 10% on shorter-term matters. Alex Osadzinski, in his talk on Sparc trends, identified three areas of conflict in the computer industry over the next few years: microprocessor architectures, systems software and object-oriented operating systems. In the chip field he predicted that the survivors would be UltraSparc, the PowerPC and Pentium - others including the AS/400 and MIPS R4000 systems would disappear because of lack of volume.

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In the first contract of its kind in the UK, **Sun Microsystems Inc** has asked software house **Logica Plc** to evaluate the security of its **Trusted Solaris Compartmented Mode Workstation** operating system. Logica will test to see if the machine complies with the **Information Technology Security Evaluation Criteria** at the **E3/F-B1** security level. Itsec is the accepted security criteria in the UK, France, Germany and the Netherlands. It is used by government departments when they buy secure systems software. **Trusted Solaris** is based on **SunSoft Inc's Solaris 1** operating system, and has been available worldwide since December 1992.

Unix International Inc has released a guide for users moving to Unix, "Rightsizing with Unix Systems: a Practical Guide to implementing Unix solutions. This 200 page book is aimed at management information systems managers, application developers, information technology architects and planners, systems integrators and consultants. It is intended to help them identify possible downsizing options and paths, providing suggestions and advice as well as case studies. The guide costs \$80.

In the UK, the price of **Sun Microsystems Inc's X** terminal, **Sparclassic X**, ranges from £2,880 for a 19" monochrome model with 4Mb RAM to £2,260 for a 15" colour, 4Mb system to £5,360 for a 19" colour system with 8Mb RAM.

Oracle Corp's Oracle7 release 0.13 is now up on **Meiko World Inc's Relational Data Cache** system, the first massively parallel processor to host it. It is also the first release of **Oracle7** that can run on any Sparc-based system running **Solaris Unix**.

A bit of confusion has set in over **IBM Corp's Blue Lightning** version of the 80486 chip. When we first heard about it, it was claimed to be a clock-tripler. But last week at its US debut, **Ambra Computer Corp** described it as a clock-doubler. And to add to the mystery, **IBM Corp's Technology Products** unit simultaneously announced it had unveiled sample quantities of its **Blue Lightning** line of microprocessor subsystems that feature a clock-tripling technique, yielding the highest speed 486 available on the market - it then said some parts ran at 75MHz/25MHz and 66MHz/33MHz (two 33s are 66, aren't they?). The parts will cost \$500 to \$700 in quantities of 1,000-per-month.

Sweden's state phone company **Televerket**, Stockholm, has picked **Sybase Inc's SQL Server** and **Open Client/Server Interfaces** as the standard relational database products for its migration to an open client-server information systems architecture.

The prospectus issue has finally caught up with **Santa Cruz Operation Inc**. **SCO** says a shareholder suit has been filed against it, alleging it violated securities law over statements it made for its May initial public offer. **Santa Cruz** went public at \$12.50 a share, but the stock has not exactly shone since the group acquired public status. **SCO** denies the allegations and will vigorously defend itself. The suit was brought by shareholders, who bought the stock from May 27 until July 26. It alleges company officers and directors made misleading statements about company prospects (UX No 447).

Bad news for **Novell Inc NetWare** users - **Alan Solomon**, virus guru and chairman of **S&S International Ltd** in Berkhamstead says he has been sent an application that cracks the security on **NetWare 3.11** servers. While he says he hasn't had time to determine exactly how the program works, work it does - and moreover the thing, called 'Hack', cracks security without the user needing physical access to the server. The code originated on a bulletin board and **Solomon** says it is likely to be widely distributed.

According to a new report from Framingham, Massachusetts-based market research firm, **International Data Corporation**, **Oracle Corp** continues to hold the lion's share of the worldwide Unix relational database management software market. It commands approximately 44% of the market in 1992 with the nearest competitor holding less than 18%.

The Microprocessor Report tracked down **HaL Computer Systems Inc** founder **Andy Heller** now that he's been ousted from the company (UX No 446) and got him to admit that **HaL's 64-bit Sparc** boxes have suffered extensive delays. It also said **John Cocke**, who worked with **Heller** at **IBM Corp** and who had accepted a position as **HaL's** chief scientist, has decided to remain in retirement and not join the company.

XVT Software Inc has named **William Perry**, former president of **Precision Visuals Inc**, as its president, with founder **Marc Rochkind** continuing as chief executive officer and senior technical officer. **Perry** has been on **XVT's** board for two years and spent the past three months serving as acting president.

Executive vice president of **Xylogics Inc**, **Bruce Sachs**, has been now made president and chief executive under a transition scheme announced at the end of last year. Outgoing chief executive officer, **Bruce Bergman**, will remain on the board.

Canada's **Prior Data Sciences Products Sales Inc** is now calling itself **Gallium Software Inc**.

Mobius Computer Corp is offering a free copy of **UnixWare Personal Edition** to buyers of its **Intel Corp-based Protege** workstations, offering a **P433icx** with 16Mb of RAM, 240Mb external, 15-inch flatscreen colour monitor, 1024 x 768/256-colour graphics accelerator, floppy disk drive, network interface and software for \$2,600, less than a comparable **Windows 3.1** unit from **Dell Computer**.

Digital Equipment Corp has apparently stopped looking for someone else besides **Mitsubishi Electric Corp** to make its **Alpha AXP RISC** chips.

Control Data Systems Inc is going to remarket **Sun Microsystems Inc's** complete line of workstations, servers and software as a commercial systems integrator, adding value such as consulting and applications solutions. This includes mechanical CAD, e-mail, storage management, database management, networking and maintenance. Target markets include manufacturing, telecommunications, utilities, financial services and healthcare.

Uniforum intends to try and drum up new members by giving away a free six-month associate membership to everybody attending **SCO Forum93**.

Sequent Computer Systems Inc's chairman **Casey Powell** told *Reuter* that despite the usual seasonal slowdown, he expects third quarter turnover and profits to exceed second quarter results, "and we remain very optimistic about the fourth quarter". **Powell** said the company - which has been trying to sell turn-key systems rather than just machines, and is also developing boxes to run under **Microsoft Corp's Windows NT** - had underestimated the time it would take to close deals under its new business model. "We didn't lose any business, we just did not estimate right on when it would come in," he said, adding the company began 1993 with about three accounts worth at least \$1m in new business and should have 50 such accounts by the end of 1993.

Nine leading Macintosh development tools vendors have committed to providing tools and languages for **Apple Computer Inc's** next generation of machines based on the **PowerPC** chip. These are **Absoft Corp**, **Bowers Development Corp**, **Echo Logic Inc**, **Languages Systems Corp**, **Metrowerks Inc**, **MicroAPL Inc**, **Sierra Software Innovations Inc**, **Symantec Corp**, and **TGS Systems Inc**.

Bob Apollo, former partner development manager at **Santa Cruz Operation Inc**, has now been appointed director of field marketing for Europe, the Middle East and Africa at the company.

Sun Microsystems Inc's SunSelect subsidiary has appointed a third distributor, **Top-Log Ltd**, to sell **PC-NFS** personal computer-to-Unix connectivity products in the UK.

Communications server manufacturer, **Xylogics Inc**, Burlington, Massachusetts, has appointed former director, **Bruce Sachs**, to take over as president and chief executive from **Bruce Bergman**, who held the job for 10 years.

Managing directors of UK database operations are dropping like flies, the latest to fall being **Informix's** UK boss, **Malcolm Padina**, who has resigned after a difference of opinion with vice president of European and Middle Eastern operations, **Ken Coulter**, over corporate strategy. **Coulter** will hold the fort in the UK until a replacement is found. **Padina's** resignation comes two weeks after **Sybase UK's** managing director, **Vince De Gennaro**, quit (UX No 447).

Siemens Nixdorf Informationssysteme AG has released a C++ compiler for its **BS2000** mainframes, enabling developers to build applications in C and C++ - C++ can be used to be used to develop object-oriented programs. The product will be available from September 1993. Prices range from £5,000 to £500,000.

As of August 16, **JSB Computer Systems Ltd** is going back to its roots. Its headquarters will be transferred from **Macclesfield**, Cheshire to a larger site in **Congleton**, Cheshire, where it originally started life in 1981.

With the industry poised on the brink of unification around a set of key APIs - see front page - the fate of **Unix International Inc** and the **Open Software Foundation** - the two opposing consortia identified with the era of the Unix wars - still seems undecided. **UI's** current financial plight must certainly be resolved if it is to continue in any form.

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TABLES TURNED: USL DROPS FEDERAL CHARGES AGAINST BERKELEY AS UNIVERSITY COUNTERSUES

The University of California at Berkeley has countersued Unix System Laboratories in California's Superior Court, charging it with false and misleading statements and unfair competition in violation of California code. The school contends that contrary to their 1984 and 1989 4.2 BSD, 4.3 BSD and 4.3 BSD-Tahoe licensing pacts, USL failed to give its work proper credit and recognition or reprint its copyright in documentation and sublicenses. The university also successfully pressed a motion to have portions of USL's federal suit against it dismissed, based on the school's claim of sovereign immunity as an agency of the state of California. As a result, USL's federal charges of unfair competition, misappropriation of trade secrets and breach of contract against Berkeley, brought a year ago, have been dropped (UX No 396). The school is still facing charges of copyright infringement and violations of the Lanham Trademark Act in the federal courts. USL must now decide whether to press the charges that have been dropped from its complaints at the state level. It claimed that the Berkeley motion was simply a tactical legal manoeuvre to get the case against it moved from New Jersey to a friendlier state court back home in California. Berkeley's suit asks the California court to rule that it is not in breach of its 1978 licensing agreement with USL for Unix 32V, the ancestor of Berkeley's Net 2, as USL charged in the crux of its complaint in federal court. USL also claimed that Berkeley has never complained before about not getting proper credit or recognition and said that all of its attempts to settle its litigation against Berkeley have been rebuffed. In an attempt to court public opinion, especially with the technical crowd hostile to AT&T Co, Berkeley has released a copy of its suit against USL on the Internet. USL maintains that it will continue to prosecute its case against the school as well as its spin-out Berkeley Software Design Inc (UX No 392), with the full support of its new owner, Novell Inc. Although the Berkeley suit was drawn up this June and served in July, it makes no mention of Novell, which acquired USL on June 14. It only refers to USL as a subsidiary of AT&T.

CONCURRENT READIES R4400 REAL-TIME MULTIPROCESSOR BOXES WITH NEW HIGH-SPEED INTERCONNECT BUS

We've been expecting a new series of real-time multiprocessors from Concurrent Computer Corp for some time (UX No 375), and the Oceanport, New Jersey-based firm now says they'll be out by the beginning of next year. Based on latest Mips Technologies Inc's latest R4400 RISC, the systems - which would debut as the 9000 series if Concurrent retains its existing numbering scheme, though that's not clear - will come with up to 16 CPUs and incorporate a new high-speed bus architecture that Concurrent has designed to eliminate bottlenecks traditionally associated with real-time systems. One of the problems with Concurrent's best-selling Unix system, the Motorola Inc 68040-based 7000 multiprocessor, is that when customers have added extra CPUs, the 7000's bus system hasn't been able to pass data to the input-output device as quickly as the chip is able to process it. That's because extra chips have been added to the same motherboard built around a VME bus that has only one connection to the computer's system bus. Each R4400 part in the new systems will sit on its own card with 64Kb memory. Each card has its own connection to the newly-fashioned system bus, and Concurrent claims a typical three-processor R4400 system should be able transfer data at a rate of 600Mb per second, with linear performance increases as the CPU count rises. 68040-based 7000 series users will be able to upgrade to R4400s simply by swapping cards, Concurrent says. The firm hasn't sold too many of its R3000-based series 8000 machines - they are a bit "out on a limb," according to the firm - and has outlined no R4400 upgrade details for those users. Although, according to Concurrent, one R4400 chip is as powerful as three 68040s, the new systems will cost the same as the 7000 series, starting at around £20,000. A comparable 8000 series system machine costs £40,000. Concurrent offers a £1,800 real-time implementation of X Windows - Real-TimeX - on its systems and is currently lining-up a posse of licencees for the technology (UX No 436). Non-competing Mips ABI group members such as Pyramid Technology Corp and Silicon Graphics Inc are candidates. Concurrent focuses on six markets: measurement and control, generating 15% of its total \$238m turnover last year, simulation and training, which brings in 20%; trading systems, worth between 15% and 20%; signal intelligence and analysis, which comprise 10%; hospital systems, which generate 5% and weather and airspace management, which accounts for the rest. Sales of Unix systems accounted for some 30% of its \$238m revenues, and although Concurrent claims most new systems sold are Unix boxes, it says that the market is only showing slight signs of growth. The rest of its revenue is derived from sales of the proprietary Perkin-Elmer-derived kit, which it inherited following its buyout by MassComp in 1989. This has an installed base of some 30,000 systems, which has grown some 10% over the last few years. Concurrent's revenues are likely to be flat this year - growth is forecast at around 5% for the year ahead, much of which will come from consultancy, training and installation.

HP's UNIX HARDWARE PLANS DUE NEXT MONTH - 7100LC BOXES AND 16-WAY SERVER FOR 1994

With such a multitude of Unix systems now on offer, and plenty more in the pipeline that have been talked-up over the last weeks and months (UX Nos 437, 445), Hewlett-Packard Co plans to bare its soul at the start of the new term, next month, when it will detail forthcoming plans for its entire Unix hardware range. It says its next slew of new systems will be introduced in phases over the rest of this year and next. Most interesting will be details of new entry-level workstations based on its low-cost (and long-awaited) Precision Architecture 7100LC RISC. Machines running at between 50Mhz and 70MHz will be able to run big and little-endian software. A new uniprocessor system using a higher clock speed 7100 part - it's currently at 99MHz - is expected, plus first details of HP's multiprocessor workstation strategy. There will be new mid-range 800 servers with higher clocked PA CPUs - an eight-way top-end HP 9000 Series 890 corporate server system is due by year-end. HP says this will likely be followed in 1994 by a 16-way machine. HP's packaged mainframe alternative systems, based on its 890 servers (UX No 445), will be announced in the UK in November.

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UNDER NEW MANAGEMENT, SYBASE INTENSIFIES ITS CAMPAIGN TO CONQUER EUROPE

By Danny Bradbury

Even the most cynical of industry analysts would be hard pushed to criticise Sybase Corp's interim results. The recent announcement showed a fine balance sheet, and promising profit and turnover figures indicated that the company could outstrip its year-end figures for 1992 this time round. Profits for the six months to June 30 showed an increase of 115.5% at \$15.3m, with a beefy turnover of \$176.4 - up 55% from last time. The results announcement was important for another reason, too - it was the first time that the company had broken down its figures for Europe in detail, revealing an aggressive stance in a market where Sybase has traditionally limped along in fourth place. The company's statement showed that European revenues soared by 125% in the second quarter to \$22.2m, compared with the same period last year.

The company's success on this side of the pond was part of overall growth in international revenues of 128% to \$26.7m, meaning that Europe forms 80% of international business. What's more, North American revenues grew by 37%, meaning that Sybase's European growth outstrips domestic by a factor of three. Even so, Sybase still has a long way to go before the European market can take it seriously enough. For starters, European business still represents less than a quarter of its overall turnover, and it still lags behind in fourth place in the European Unix database market. An International Data Corp report places Oracle Corp as the number one in the European Unix market with a market share of 46.5%. Informix Software Inc was second with a 16.7% market share, while Ingres Corp comes in third. To help, the company has rethought its European strategy to the extent of appointing a new European business development manager. Francois Steiger, chief executive of multimedia company, Gain Technology Inc, which Sybase bought last year, has been moved to the new post in the wake of Vincent De Gennaro, the UK managing director who recently left the company. Gennaro held both posts, but Spiers says that the UK managing director's post will not be given to Steiger as part of the package. Sybase is expanding rapidly in Europe, having opened up more subsidiaries to take its total to eight. From an initial base of the UK, France and Germany, it expanded to the Netherlands, Belgium, Spain, Italy, Belgium and Switzerland, and this year it is attacking Poland, Hungary and the Czech Republic. It operates from the Netherlands as a single company. While most of Sybase's competitors in the European market are managing to grow considerably, they are not matching Sybase's growth here. Informix increased European revenue by half with the opening of its Irish development, production and distribution centre, while Oracle's European revenue for the quarter ending May 31 ballooned by 27%, with UK revenue alone growing by a third to £160m.

Not perfect

Ingres's financial results show a disappointingly small increase in overall software and services revenue totalling 4.1%. This means that although Sybase is still relatively small in Europe, it is slowly gaining in terms of market share. To continue doing this, it has had to think about a couple of problems. Sybase's largest problem in the European market seems to be its support policy. In the quarter to June 30 1992, service costs lagged behind at 11.4% of total revenue, while product development and engineering costs were 16.5%. Sales and marketing costs, meanwhile, hovered at 45.3% in the same quarter, leaving service a poor third. The indication now is that the company is switching emphasis. Service costs rose to 15.1% for the quarter to June 1993, while sales and marketing costs dropped by 1.7 percentage points of total revenue, although increasing in real terms. John Spiers, North European marketing director for Sybase says the company can afford to ease up on marketing costs as it gains market momentum. Product development and engineering costs were down 0.4% on those for the year ago period. Spiers mentions that Sybase will help continue its growth in Europe by recruiting more consultants. "In terms of the time taken to clean up the reported problems and the backlog, there's been improvement in the past six months," he says. "We're not perfect but by the end of the year, we should have more customer endorsements and statistics." Even so, Spiers is sensible; he says that he is not sure he wants Sybase to be another Oracle, although he is hoping that Sybase can gain more market share in the industry. One thing that came up at Sybase's recent European financial results announcement was that in an impromptu survey of potential customers, the company asked them how many of them had only one database, and how many had more than one.

The overwhelming answer was that the majority of corporates had more than one, with most having between two and five. A few had still more than that. Consequently, the initial method of gaining business in the European database market seems to be to pitch at getting part of a corporate account rather than trying to knock other developers out of the accounts; it would seem that companies have too much invested in current databases to risk cutting links with that system and switching all their business to a new technology - no matter how good that new technology might be.

Weak penetration

The new technology is quite impressive, by all accounts, and getting more impressive all the time. The Sybase System 10 database and tools suite is designed to embrace corporates and give them the confidence to expand their systems operations from single departments to a wider area. The company is also hot on the heels of the other three database developers in producing software for ICL Plc's CAFS hardware-based database management accelerator. Other strong links within Sybase include a relationship with Microsoft Corp, which enabled it to get NT's Database Server based on Sybase technology. Sybase hopes that its weaknesses - the still weak penetration of the European market, partly due to Ingres's stronger European presence blocking its step up to number three European Unix database vendor, and a backlog of support problems it is struggling to fix - will be remedied by its strengths. These include the energy with which it is forcing into Europe and the new System 10 technology it is developing, for release by the end of September (UX No 446). Steiger's fresh look at Europe may well fire the company's enthusiasm just when it needs it most.

CAD/CAM MARKET VALUED AT \$7,770m LAST YEAR

Dataquest valued the worldwide mechanical CAD/CAM/CAE market, including hardware, software and services, at \$7,770m in 1992, an increase of 5% over 1991. The number of hardware units grew 7.2% worldwide to 290,390 technical workstations, personal computers, hosts and servers. Combined MCAD/CAM/CAE hardware, software and service revenues in Europe in 1992 grew at approximately the same rate, 4.2%, for a total of \$3,100m. Growth in unit sales was somewhat slower in Europe, at 5.1%, to a total of 104,300. The top 10 vendors in the \$3,100m European MCAD market, in order of market share, are IBM Corp (\$604m), Compu-tervision Corp (\$487m), Hewlett-Packard Co (\$267m), Digital Equipment Corp (\$128m), Intergraph Corp (\$96m), Matra Datavision SA (\$89m), Siemens Nixdorf Informationssysteme AG (\$88m), Control Data Corp (\$82m), EDS/Unigraphics (\$78m) and Applicon (\$76m).

INFORMIX READIES PARALLEL VERSION OF ONLINE FOR HP-UX

Informix Software Inc expects to have a parallel server version of its OnLine relational database ready for Hewlett-Packard Co systems in the second quarter of 1994, says Charles Anderson, Informix's European product marketing manager. With the technology, he says, "we're breaking up queries and sorts so you can run them across multiple processors. Most of the work has been done with Sequent [Computer Systems Inc], so it will be on their systems first, but it will be ready six months later for other systems, and Hewlett-Packard will be one of the first, because it's one of our acceptance systems."

UNIRAS ON THE BLOCK, SEEKS BUYER

Graphics visualisation software house, Uniras A/S, appears to be on the brink of collapse. Sources say that the Copenhagen, Denmark-based company issued a letter to its customers three weeks ago, saying that the Maritime and Commercial Court of Copenhagen granted it a bankruptcy order on request on July 22, 1993. Uniras is now believed to be in negotiation with possible buyers. It is unlikely the receivers will allow the firm to sell any products until a buyer is found, however, because of potential problems with future support. This will almost certainly apply to the UK, but not necessarily to the firm's US operation, which exists as a separate legal entity. No one at Uniras was available for comment. As little as three weeks ago at the Siggraph show, the group released a new Unix three dimensional data visualisation package. Direct Insight enables users to manipulate large three and four dimensional data sets in real time. It is targeted at advanced structural, mechanical analysis and finite element analysis markets and costs \$9,900.

C.ITOH HAS SPARCLASSIC X RIVAL - FOR JAPAN ONLY

C.Itoh Electronics Corp, which changed its name on April 1 to Itochu Electronics Co Ltd, has begun marketing a rival to Sun Microsystems Inc's Sparclassic X Windows terminal which uses the Texas Instruments Inc MicroSparc RISC (UX 446) - but only in Japan. Itochu said it hadn't done any joint development work with Sun, though not for want of trying (UX No 402). The CIT-RX will only be sold in Japan, the firm says, because voltages are set for the domestic market and because monitors need to be very high resolution to cope with Japanese characters. This means they are more expensive than their US and European counterparts. Market research undertaken by the group has shown products like its X terminal cost too much for these foreign markets. Nonetheless, Itochu is competing with Sun at home. Its sister company, Itochu Techno Science, is the biggest Sun distributor in the country, and sells between 6,000 and 7,000 workstations there each year. Still, Itochu says, at 398,000 yen - the equivalent of \$3,800 - the CIT-RX is half the price of a low-end Sun workstation, but can achieve similar drawing speeds - up to 120,000 XStones. The new product also incorporates a Power9000 graphics accelerator made by Weitek Corp. Itochu has already signed several OEM agreements with large Japanese firms, including Fujitsu Ltd. Despite the name change, it will continue to use C.Itoh as a product brand name.

NEW C++, DCE, NOVELL CLIENT SOFTWARE TO DEBUT AT SCO FORUM

Santa Cruz Operation Inc will be making several technology announcements at SCO Forum 93 next week. First, it plans to debut the SCO C++ Language System Release 3.1, which expands the object-oriented programming capabilities of the SCO Development Systems development environment for Intel Corp iAPX-86-based machines. The release is based on the Novell Inc Unix Systems Group's cfront 3.0 technology and is compatible with more than 50 cfront hardware and software environments. It runs under SCO Open Desktop and SCO Open Server operating systems and includes utilities, libraries and standard documentation. Second, the firm will announce the availability of the SCO Distributed Computing Environment Developer's Kit Release 1.0 (UX 436). The Developer's Kit enables users to build and port DCE applications from SCO environments and is an implementation of the latest version of DCE - Release 1.0.2. It runs on SCO Open Desktop and Open Server. The company also hopes to release its runtime version of DCE in the first quarter of 1994, adding further DCE support to Open Server and Open Desktop. Third, SCO intends to announce it has finally licensed Novell Inc's Netware Unix client software (UX 436) - it has used the Netware IPX/SPX protocol stack for some time. The software will enable SCO Open Desktop and SCO Open Server users to access files and resources from Novell Netware servers. It will also enable software developers to write client-server applications that can run on networked SCO client machines and Novell servers.

X/OPEN DOING SYSTEMS MANAGEMENT FOR COSE - TIVOLI AND USL SLIP THEIR BID

The continuing, and now seemingly terminal inability of the Open Software Foundation to deliver its Distributed Management Environment (DME) in a timely fashion, has effectively thrown open the world of Unix systems management again - and the picture at the moment is somewhat confused. To challenge Microsoft Corp's integrated Windows interface application set, the Common Open Software Environment firms, and others besides, have rounded on the Common Desktop Environment, backed by X/Open Co's fast-track process, to achieve it. Standard network administration and systems management for Unix - already straddled by Microsoft in Windows NT and the forthcoming Hermes software distribution and management toolset - is once again a hot potato. Hewlett-Packard Co has been blowing hard about its Simple Network Management Protocol-based OpenView distributed systems administration and management suite for ages now (UX No 433), and the software is now architected to work across a range of third party platforms. To garner broader appeal, observers expect HP to team OpenView with IBM Corp's NetView management environment in a bid to win the COSE systems management ticket - if, in the wake of OSF DME, COSE has now decided to level the playing field at this point. There are other candidates too, however. Tivoli Systems Inc, whose Tivoli Management Environment framework was to have been the basis of DME, is also pitching for the systems management play again. TME is already backed by a variety of vendors, including Sun Microsystems Inc and Unix System Labs, and in conjunction with the Novell Inc unit Tivoli has submitted a specification for a systems management application programming interface to X/Open Co, which it believes is receiving systems management submissions on COSE's behalf and will be fast-tracking a systems management specification alongside CDE. Tivoli first offered its systems management API to COSE back in March (UX No 429). This version is a second-generation implementation of TME, which is now compliant with the Object Management Group's Common Object Request Broker Architecture IDL language. Formal deputations and a review of submissions are expected to be heard by X/Open's systems management working group in November. X/Open, meanwhile, has been trumpeting the efforts of the Santa Cruz Operation Inc with its home-grown object-oriented systems management stuff that's claimed to be operating system-independent (UX No 448). No-one at X/Open was able to shed any light on its systems management strategy last week.

HEAD OF IBM RISC DEVELOPMENT TO HEAD-UP MIPS TECHNOLOGIES

Silicon Graphics Inc has tapped Thomas Whiteside, director of RISC processor development at IBM Corp, to be president of its Mips Technologies Inc unit. Whiteside will be responsible for research and development, marketing, and alliances associated with the Mips RISC architecture. Whiteside headed IBM's efforts to develop the PowerPC family of microprocessors; he told *Reuter* his leaving IBM was not a reflection of his confidence in the PowerPC, and that the new job was "a big stretch and real excitement for me - it's a chance to run a lemonade stand, in terms of operating the business; if you just look at what's on the market there from Mips, they've got some of the hottest stuff going and have at least hinted at some other things."

CA-UNICENTER DUE ON ICL AND OTHER UNIX BOXES

Islandia, New York-based Computer Associates International Inc already has its CA-Unicenter systems management software up and running on Hewlett-Packard Co's HP9000 Unix boxes, but is in the process of porting it to a range of other Unix environments. An IBM Corp OS/2 version is currently beta testing, and a port to Sequent Computer Systems Inc's Symmetry machines will go into beta this month, with availability due two or three months thereafter. An ICL Plc DRS/6000 port is expected to be announced in the next couple of weeks and Data General Corp Aviiion and IBM RS/6000 versions will go into beta testing sometime between September and November. Versions for Sun Microsystems Inc Solaris, Novell Inc Netware, NCR Corp and Pyramid Technologies Inc MIServer systems should be in beta by year-end. Ports to Tandem Computer Inc's Guardian machines, Novell's Unixware and Microsoft Corp's NT on NCR boxes will be in beta by early next year. Computer Associates has generated £1.5m in the UK from its year-old Hewlett-Packard Co HP/UX port.

NCR OFFERS TOWER AND AT&T 3B2 USERS TRADE-UP TERMS TO SYSTEM 3000...

In an attempt to wean users off its own and its parents' older system technologies, NCR Corp is offering a trade-in programme for AT&T Co 3B2, System 7000, NCR Tower, I System and V System users to move to its System 3000 series. Trade-in credits are being offered to US customers on hardware, with incentives for migration software, support and application porting, until December 17. The company says a Tower or 3B2 user could be eligible for up to \$100,000 towards a four-processor Pentium-based NCR 3555 system, or \$20,000 towards a dual-processor 80486-based model 3450. There are other incentives on networking hardware and software, a one-year warranty, client/server system integration, system administration, system backup/restore and capacity planning, Oracle, Informix or Sybase database software, NCR 6298 disk array subsystems, Unix educational courses and Tower transition tools. +1 513 445 1615

...AS TOP END GETS GRESHAM TELECOMPUTING ENHANCEMENTS...

It was always clear that there was some very hot technology struggling to get out at Telecomputing Plc, and since the acquisition that made it the tail that wags the Gresham Telecomputing Plc dog, the company has not looked back. Latest coup is a decision by NCR Corp to adopt the Southampton company's ISAM-XA resource manager as a value-added product for its Top End transaction processing monitor. ISAM/XA is an IBM Corp Extended Architecture-compliant transaction-oriented resource manager for Unix. It has C and Cobol application programming interfaces and is intended to enable users of ISAM, Index-Sequential Access Method, applications to move them from the mainframe to Unix, and to build new distributed transaction systems using ISAM files.

...NEW NETWARE CLIENT SOFTWARE

And NCR Corp has released StarGroup NetWare/X 7.1 and StarGroup Server for NetWare Clients version 1.01 software for its System 3000 multiprocessors. NCR says the new NetWare/X release allows NetWare users to transparently access Unix applications running on a server - the NetWare Client package offers similar functionality for customers with mixed NetWare and LAN Manager clients. NetWare/X is priced at from \$1,600 for five users on uniprocessors to \$17,500 for 250 users on multiprocessor systems. NetWare Clients version 1.01 costs from \$1,900. +1 513 445 5236

MAINFRAME'S FATE IS BLEAK, SAYS FORRESTER

There's nothing like kicking a product - and a company - when it's down, and a report, *The Mainframe's Fate*, from Forrester Research Inc, Cambridge, Massachusetts, concludes that despite what some diehard mainframe manufacturers say, and in line with what we have been suggesting here, the big machines have little place in client-server computing. Forrester asked 50 companies from the Fortune 1000 list of the biggest US businesses whether they are using mainframes as servers or would consider doing so. Only 20% said they are using a mainframe as a server now, and 34% insisted they would never consider it. Forrester is not predicting the mainframe's extinction any time soon, reckoning that it will continue to see some use as a central data warehouse. Of those surveyed, 45% said they would use a host system as a central data repository and only 20% said the mainframe has no future at all. At the other extreme, only 20% said it will remain their primary applications system, while 52% said its future is in supporting large databases. Five of the 50 companies surveyed, 10%, had already powered down their mainframes and another 18% said they are aiming to reduce their dependence on mainframes. Forrester predicts the emergence of a new class of corporate server, which will fill the role some mainframe vendors have tried to claim for their machines. These will be larger and more powerful than today's departmental servers such as Compaq Computer Corp's SystemPro, will use the most powerful microprocessors, such as Intel Corp's Pentium or one or other of the contending RISCs, with multiple processors. Digital Equipment Corp's Alpha and the PowerPC from IBM Corp, Apple Computer Inc and Motorola Inc are seen as leading contenders.

SUN ALLOWS INTERNET FOLKS TO CHANGE ONC+ WHERE REQUIRED FOR USE IN NEW STANDARD

As well as rallying more commercial licencees to its environment (UX No 448), Sun Microsystems Inc is also giving the Internet Engineering Task Force rights to use - and alter if they wish - key pieces of its Open Network Computing+ distributed networking system to create an Internet standard. These include the remote procedure call, NFS versions 2 and 3, the distributed directory service - Network Information Services - and the Lock D security component. Sun's mechanism for accessing distributed resources across heterogenous systems is rivalled by the Open Software Foundation's Distributed Computing Environment - both of which figure in the COSE firms' technology plans. ONC+ operates across AppleTalk, Novell Internet Packet Exchange, TCP/IP and OSI networks and is offered free to licencees. In contrast, OSF DCE has a large code base and is subject to a licence fee. However, as the environment stabilises, its more advanced directory, security and other services are expected to attract many customers.

...LOSES ITS SECURITY AGENCY CONTRACT AFTER RIVALS HOWL

A \$200m contract from the US National Security Agency awarded to Sun Microsystems Inc in June has been snatched away from the company after protests from defeated bidders IBM Corp, Silicon Graphics Inc and Hewlett-Packard Co that the Sun machines did not meet the performance requirements in the tender. Sun says it hopes the contract will be reopened for bidding and that Sun will have another opportunity to compete. The High Performance Workstation II version of the Sparcstation 10 Model 20 was being used by the intelligence agency to enhance satellite images.

ICL'S INDIAN AFFILIATE TO RESELL SUNS

ICL Plc's 45%-owned Indian affiliate International Computers Indian Manufacture Pvt Ltd in Bombay has turned to Sun Microsystems Inc to broaden its product line, *Newsbytes* reports. Wipro Infotech Ltd of Bangalore has hitherto been the only distributor of Sun systems in India. The ICL company, which calls itself ICIM, says it is negotiating for the entire Sparc server and workstation range, in a deal that will replace an existing OEM agreement for Sun workstations with Wipro. As an OEM customer, ICIM had to fulfill the warranty itself and found itself at a price disadvantage, and often competing against Wipro's own direct sales force. ICIM reckons that the Sun range will complement its existing ICL DRS range of Sparc-based servers, which will conflict with Sun servers at the high end. ICIM's primary market is the financial sector, where Wipro has done well.

NIPPON DEC TO START MARKETING UNIFACE AS IT REORGANISES INTO NINE DIVISIONS

Following on from Fujitsu Ltd's announcement that it would be remarketing popular open systems products such as the Dutch Uniface applications generator, Oracle Corp relational database and others, Nippon DEC also says that it will start marketing Uniface. Uniface BV's distributor in Japan is Takt Systems Ltd, which will continue to provide pre- and after-sales support for the product. Nippon DEC says that the Alpha AXP version of Uniface will be available later this summer, and is already available on VAXes and VAXstations under OpenVMS and DECsystems and DECstations under Ultrix. Uniface is said to have sold 15,000 copies around the world. Following the appointment of a Japanese president, former Bayerische Motoren Werke AG chief Mr Hamawaki who recently replaced long-timer American Edmund Reilly, Nippon DEC has reorganised into five industry-based divisions and three product-based divisions.

CRAY BUYS TECHNOLOGY FROM CHEN'S FAILED FIRM

IBM Corp has a big loss on its books as a result of its backing of Steve Chen's failed Supercomputer Systems Inc, but will recoup some of its outlay from a deal under which Cray Research Inc has bought rights to some of the technology that was developed by Chen's company - Chen was of course a Cray employee before going off to form Supercomputer after his project was cancelled. Cray is buying the unidentified technology from Supercomputer Systems Ltd Partnership, which is largely owned by IBM, and terms weren't disclosed. Cray says it does not plan to develop new products based on the technologies but might incorporate them in future products. Cray also extended its patent cross-licensing pact with IBM, which now runs to the end of the decade.

BULL HAILS POWERPC AIX SYMMETRIC MULTIPROCESSING SUCCESS...

Compagnie des Machines Bull SA's development team, working on the symmetric multiprocessing version of IBM Corp's PowerPC-based RS/6000, has completed the design and tested it, says Armand Malka, Bull vice-president of marketing. "We ran the 601 B-processor with AIX 3.0, to which we had to add some extra functionality. We are still waiting for AIX 4.0 from IBM, which we need for definitive testing, but I believe IBM is ready to put major resources into that and certainly by spring 1994, [the final product] will be there," he said. AIX SMP is being developed by Bull's teams in Grenoble and Milan, allied with a joint team in Austin, Texas. "In Austin they are working on AIX 4.0 and ASICs for communication, but the really big work is going on in Europe," Malka said. "We are extremely optimistic and I am taking into account the potential introductions of the likes of Hewlett-Packard Co and Sun Microsystems Inc. We have spent lots of money on this project and the new DPX/20 will cause a rupture in the market." Bull is also talking to IBM about joining its parallel processing projects because it has work that could be added to the software environment.

...MOTOROLA DOING NT; IBM PLANS EMBEDDED VERSIONS OF POWERPC...

While the *Wall Street Journal* reported that Motorola Inc is doing the expected implementation of Microsoft Corp's Windows NT for the PowerPC chip, IBM Corp's Technology Products unit last week announced that it is developing a new family of embedded processors based on PowerPC. The PowerPC Embedded Controller is claimed to offer performance and power consumption advantages over competing products at significantly lower prices for applications such as driving printers, copiers, personal communicators and video games. IBM will launch the first products in a new PowerPC Embedded Controller 4XX family in the first half of next year, but for those keen to get to grips with the technology now, it has two development products to support the PowerPC 601 processor, samples of which are out now. The PowerPC Embedded Controller family will integrate system-level functions such as memory control, counters, timers and input-output on a single chip, and IBM also plans to offer the CPU in core form. for inclusion in application-specific circuits.

...APPLE SAID TO BE SEEKING TO SELL HALF ITS SHARES IN TALIGENT...

With the silly season well and truly upon us and hard news thin on the ground, the computer industry is resorting to gossip, and *BusinessWeek* hears that Apple Computer Inc may be interested in selling at least some of its stake in its Taligent Inc joint venture with IBM Corp to create an object-oriented operating environment. There has long been talk that Hewlett-Packard Co would come on board as a third partner - most likely as part of its planned closer relationship with IBM Corp (UX No 430) - and Steve Jobs told *BusinessWeek* that Apple wants to sell at least half its 50% stake in the venture, which is structured around Apple's Pink development effort. Sun Microsystems Inc has also been offered shares by Apple, the magazine was told. Apple would not comment on the talk, while Taligent denies Apple has lost interest in it. Other sources told Unigram that the Taligent environment has always had more of an IBM than an Apple focus, and that Apple is more interested in its OpenDoc answer to Microsoft Corp's Object Linking & Embedding - presenting this as a division of labour.

...AS INSIDERS PUSH POWERPC SCHEDULES UP

Meantime, Apple Computer Inc is now thought to be looking to the PowerPC RISC family as a short cut to offering Macintosh customers more power more cheaply. According to *MacWeek*, the company is mapping out a three-prong strategy that involves moving to the 40MHz version of 68040 for all high-end models, moving to the 68040 from the 68030 in Classic and LC models before moving over to the PowerPC for all high-end and mid-range Macs. The paper hears there is a groundswell at Apple to replace the 60040-based Quadra and Centris lines with PowerPC models as soon as possible, perhaps by the end of 1994 or early 1995. The first PowerPC Mac is to be a Centris 610-style machine with a PowerPC 601 chip, at from \$2,000, planned to be launched in January. A Centris 650-like model with three NuBus slots is expected around March, and a second generation of 601 systems, with much higher performance, is due by autumn 1994. Later in 1994 and early in 1995, Apple is expected to add models using the PowerPC 603, a low power consumption chip with 601 performance at lower cost, and PowerPC 604, a replacement for the 601 that should boost performance twofold to threefold. The paper's sources at Apple say that the plan to ship 1m PowerPC-based Macs in 1994 is a conservative estimate and that internal projections are for as many as 1.5m RISC systems next year. Motorola Inc is expected to make volume ships of the 68060 with two to three times the power of the 68040 by mid-1994, but Apple currently has no plans for 68060 systems; the chip is seen as a fallback if unexpected snags hit the PowerPC. Apple would say only that it plans to ship PowerPC systems in the first half 1994.

IBM CLAIMS POWERPC PRICE/PERFORMANCE ADVANTAGE OVER PENTIUM

This month's *Byte* magazine carries a comparison of how PowerPC stacks up against Pentium - given the lower cost of the 601, IBM Corp believes PowerPC has an extremely good price/performance advantage:

	66MHz Pentium	601 Borland C	601 Microsoft C
Numeric sort	1	1.5	1.5
Bit-field ops	1	4.7	2.8
Emulated float	1	1.8	3.2
Simple FPU ops	1	1.9	1.5
Transcendental FPU ops	1	0.7*	0.7*
Power needed	16W	9W	9W
Volume purchase	\$965	\$450**	\$450**

* Due to the preliminary form of the floating point library used.

** Based on purchase of 1,000 chips.

ARIES OFFERS NEW MARIXX SPARC OPTIONS

Aries Research Inc is offering an 18-month warranty on its Marixx dt/51 Sparcstation 10 clone featuring a 50MHz Supersparc with 1Mb external cache, internal support for 2Gb disk and 512Mb RAM, two Mbus and four SBus slots, Ethernet, SCSI 2, two serial ports, one Centronic parallel port, 16-bit CD-quality audio, 144Kb/second ISDN and Solaris 1.1 or 2.2. Options include a choice of CG3, GX or GX+ graphics cards, 16-inch, 17-inch or 19-inch monitors. The company will preconfigure Megatek accelerator and Vitec 24-bit true colour graphics cards. A base unit with 32Mb internal and 424Mb hard disk with a CG3 frame buffer and 19-inch monochrome monitor goes for \$18,000. The system upgrades to four processors. Meanwhile, the company is offering its Sparc 2 and Sparc 10 clones as components to OEMs. List price on the Sparc 2 Parrott II system board is \$1,977 and on the Marixx system board \$6,998. System chassis for the Sparc 10 clone is also available for \$460. Prices on its GX+ and GX accelerators are \$1,530 and \$1,150 respectively.

SYSTEMS STRATEGIES HAS NEW UNIX-TO-HOST COMMS

Systems Strategies Inc, New York has announced Express Integrated Desktop, designed to integrate Unix communications with data from mainframes, AS/400s, and VAXes. It brings together 3270, 3179-G, 5250 and ANSI terminal emulation, enabling users to integrate data at the Unix desktop level. Systems Application Architecture-compliant and compatible with Motif, the system comes in two versions: the stand-alone Unix Operation version combines with the company's Express SNA server to link a multi-user Unix system with a mainframe or AS/400, while the LAN Client Operation running on a Unix workstation can be a client of Express SNA Server, Novell Inc's NetWare for SAA or Telnet for direct connection to the host machine over TCP/IP.

UNISYS SPLITS INTO THREE

Unisys Corp has restructured into three business groups, eliminating the post of president and chief operating officer. The three business groups are Information Services and Systems, Computer Systems, and Government Systems. Reto Braun, who was a Unisys director, president and chief operating officer, will leave the company to pursue other interests, and all three business groups will report directly to chief executive James Unruh. The company says it is making the change to become more "client-driven". Unruh himself will head the Information Services and Systems business, which takes in all Unisys systems integration activities and will have three geographic sales divisions, while Albert Zettlemyer will head the Government Systems group, which includes all the former Paramax Systems divisions, and Unisys Government Systems Inc. Computer Systems, under Hugh Lynch, will supply the other units with computer, imaging and payment systems and software products and tools.

EUROPEAN ROUNDUP

Apparently, the AIX team at **IBM Corp's** largest European RS/6000 site - believed to be the UK's North West Water, with 1,000 machines - is having a hard time with all sorts of problems, bugs, callouts, weekend work and bad fixes. Sources at the organisation - which also has a number of MVS systems - say the hitches with IBM's Unix are very reminiscent of those that MVS users were suffering about seven years ago.

Informix Corp's Graphical Development Environment, which sits on top of Hewlett-Packard Co's SoftBench, will be moved to the COSE Common Open Software Environment "whenever they get that sorted out," declares Informix's European product marketing manager Charles Anderson from the firm's Ashford, Middlesex base.

German software house, **X/software**, Gronenbach, is offering a version of its Unix and Motif-based X/WinOnX Windows application programming interface for SunOS 4.1.3, with a Solaris 2 implementation due soon. The software is claimed to allow developers to port Windows applications to Unix without modifying code - the company says ported programs can't be distinguished from original Motif packages. X/software says X/WinOnX doesn't emulate Windows; libraries implement a Windows 3.1 programmer's interface whilst a separate resource compiler translates resource definitions. No prices given. +49 8334 1441

Sun Microsystems Inc has the real thing: in the days of the great (well that was how he saw himself) J Edgar Hoover, the man Lyndon Johnson preferred to have inside the tent p*ssing out, G-men with a black mark against their names were posted to cool their heels and their pistols in Butte, Montana. Later, IBM Corp found that the offer of a transfer to the gruesomely-named Mechanicsburg, Pennsylvania was enough to persuade surplus employees in the sunbelt to apply for voluntary redundancy, but now Sun Microsystems Inc has opened a training centre in - Siberia, so if anyone in Mountain View starts to get a bit uppity, there's the prospect of a one-way ticket to a teaching post in Novosibirsk, Siberia.

Market research company **Dataquest** says IMI Plc subsidiary, **Uniplex Ltd**, now commands 53.1% of the worldwide market for Unix-based office automation software, a rise of 4% on the previous year and 35% ahead of nearest rival ICL Plc's OfficePower suite. Dataquest gives the Hemel Hempstead, Hertfordshire-based firm a 21.3% share of the worldwide workgroup software market, ahead of WordPerfect Corp at 12% and Microsoft Corp at 7.6%.

Unisys Corp marketing manager Peter Greenhill has confirmed that his company will establish a joint venture with the Budapest-based system integrator, **Sysland Kft**. The joint venture, known as Unisys Hungary, will be the first Unisys operation with legal status in the country and will be 55% owned by Sysland. Sysland was formed four years ago as a wholly-owned subsidiary of the state-owned computer firm SZUV Kft, but has since gone private following a management buy-out. As well as acting as Unisys's partner in the region, Sysland has also localised key software products such as the Uniplex office automation package and the Proteus manufacturing system.

Newbury, Berkshire Cobol specialist **Micro Focus Group Plc** saw slow revenue growth, and consequently, reported flat profits for the first half of 1993. To combat the situation, the company has jettisoned its management-by-committee approach and has given chairman, Paul O'Grady, the new post of chief executive officer. Micro Focus reported net profits for the six months to July 31 up 21.9% at £7.8m, on turnover up 33.3% to £40.8m. Pre-tax profits rose 20% at £11.6m. But the figures translated to dollars, paint a different picture - profits remained flat, in fact dropped slightly to \$17.4m from \$17.6m. Dollar revenues still showed growth at \$61.4m compared with \$55.5m. Just under 70% of all sales are generated in dollars.

IBM Corp is clearing out six of its nine first-tier RS/6000 resellers in the UK, in an apparent attempt to cut overheads. UK trade paper *PC Dealer* thinks Bytech Systems, Metrologie and Cotec will be kept, though Leeds firm Computer Service Technology Ltd says it is also in the frame, having done £850,000 of RS/6000 business since its AIX division was formed back in January. The other six will retain a secondary VAR status.

Sequent Computer Systems Inc has a new UK marketing manager - Chris Elliot joins from **Siemens Nixdorf Informationssysteme AG**. Former UK marketing manager, Mark Miller, is now vice president, worldwide marketing, and based at company headquarters in Beaverton, Oregon.

Fresh from success last month in drawing 2,000 people to Object-Expo Europe, the organisers have scheduled next year's event for September 26-30 1994 at the Queen Elizabeth II Conference Centre in London.

CASE tools developer, **Speedware Plc**, London, has signed up Indian distributor, **HCL Hewlett-Packard Ltd**, to sell and support Speedware/4GL and Speedware/designer in India.

Oxford-based **Cherwell Scientific Publishing Ltd** has released an application for plotting data and generating graphs for scientists and engineers working on **Sun Microsystems Inc** workstations. GraphView costs from £500.

Interleaf Corp, Waltham, Massachusetts, has signed a reseller agreement with UK firm K2 to sell Interleaf 5, its document management system in the UK.

UK, Cambridge-based **Unipalm Ltd** has a new e-mail system, Mail-it Remote, which incorporates UUCP and enables users to send and access mail to and from a Unix host and from there to or from an organisation's wide area network. Prices start at £600 for a five-user pack.

Gresham Telecomputing Plc has joined **X/Open Co's** transaction processing technical workgroup.

UK-based **Perfect Recall Ltd**, London, has introduced Perfect Impact, a source code analyser for SQL-based applications. The software has in-built SQL analyser, which is able to detect usage of columns or attributes in code modules. It includes entity life histories, attribute life histories and program structures. Perfect Impact is available on a variety of Unix platforms and is priced at £7,000.

Ferranti International's process monitoring and control software, OpenPMS Supervisor and Network Information management System, are now available on **Sun Microsystems Inc** Sparcstations.

Communic8 has introduced PKZIP 2.0, a high speed file compression and decompression package for Unix. Developer kits are available now for Santa Cruz Operation Inc Unix, IBM AIX, Interactive Unix, Sunsoft Inc Solaris and Hewlett-Packard Co HP-UX. +44 81 878 0066.

Misys Plc reports that its wholly-owned **CHA Computer Solutions Pty Ltd** unit won a £6m contract to supply a group of 19 Australian universities with a fully integrated range of finance and administration systems.

The European X Users group is holding its 1993 conference and exhibition at Imperial College, London, on September 16 and 17. +44 223 426534.

UK accountancy software specialist, **Tetra Ltd**, Maidenhead, Berkshire, has added support for Chamelon 2000, its Unix accountancy package, to Unisys Corp U6000 Unix workstations and servers.

In the UK, **Microprocessor Developments Ltd**, London, has changed its name to **Sculptor Ltd**, after its flagship application development environment, Sculptor 4GL. +71 328 2277.

Thame, Oxfordshire-based, **Transformation Software Ltd** has been signed up to market and support **Age Logics Inc's** Xoftware Xserver software in the UK.

Following **Siemens Nixdorf Information Systems Ltd** European support and marketing agreement with **SAP AG** for R/3, its Unix financial and accounting software, SNI will now offer the software to medium and large business as R/3 Live. The firm is currently establishing a network of 20 dedicated "centres of expertise" to install, train and support R/3 Live users across Europe.

WYSE ADDS NEW UNIX/NT UNIPROCESSOR - WILL PRE-INSTALL SCO SYSTEM SOFTWARE

Today - Monday - Wyse Technology Inc will add another Intel Corp-based midrange server to its Series 6000i family. The Series 6000i Model 650 has a 66MHz i486DX2 CPU, comes with 4Mb of RAM, includes 256Kb cache and incorporates a 1Gb SCSI-2 interface. It supports up to 32 users, and runs Unix SVR4, SCO Unix SVR3.2 Version 4.2, and MS-DOS 6.0. It will also run Microsoft Corp's Windows NT and Windows NT Advanced Server later this quarter. The product is available now and starts at \$2,960. From now on, Wyse will pre-install Santa Cruz Operation Inc SCO operating systems on all its client and server machines. It will also provide technical support, and separately distribute the whole range of SCO products, including network and development software.

PROTOOLS PORTING NETWORK ANALYSIS SOFTWARE TO UNIX

ProTools Inc, the folks in Beaverton, Oregon who wrote the network drivers for OS/2, this week will announce plans to port their network analysis products to Unix as well as other platforms besides OS/2. The company is beginning with key partners, including integration with IBM NetView/6000, HP's OpenView, AT&T/NCR's StarSentry and Ungermann-Bass' NetDirector. Sun's Net Manager will follow. Customers will be able to mix and match ProTools' network analysis products throughout the enterprise on any OS to monitor and analyse the entire network from their management platform choice, it said. ProTools believes its move is the first of its kind from any network analysis vendor. The initial Unix versions, supporting SunOS and AIX, are due in the first quarter. Current products include Foundation Manager, an SNMP RMON console capable of monitoring and analysing up to 256 remote networks, and Cornerstone Agent, an RMON agent and standalone real-time analyser. Pricing has yet to be set. +1 503 645 5400

MASSIVE PARALLELISM TO BE BIG WINNER IN MULTIMEDIA REVOLUTION: ORACLE'S ELLISON

Oracle Corp founder and 33% shareholder, Larry Ellison, is taking a contrarian tack on the received wisdom that Microsoft Corp has got everything right for the multimedia revolution and is going to rule the world. Talking to the *San Jose Mercury*, he says that Microsoft's Bill Gates and today's "digitati" have picked the wrong vision: "people see the present, and they think it's also the future. It's not." Ellison reckons that Microsoft is simply too locked in to the personal computer to define the future: it sees tomorrow as a seamless network of personal computers and microprocessors, all faultlessly exchanging data. Oracle grew up as a database company and believes the real value of design lies in the data, not the machines that manipulate it, and that the future lies with the meta-computer, a super-operating system that the data in each and every micro-, mini- and mainframe computer and combines it into a single unified database that can be instantly accessed and processed by any machine at any time - in other words a massively parallel processor. "Massively parallel computing is inevitably the successor to mainframes," Ellison asserts. "By the end of 1996, at the same cost of putting the data on personal computers, we'll have sub-second access time to over 10Tb of data." He contends that Oracle is the only company that has created the algorithms and intellectual infrastructure to turn a handful of local area networks into an integrated deep-discount database supercomputer that "can go 10 times faster at a tenth of the cost." Only Oracle, he says, has worked out how to offer "graceful scalability" so a customer can move from a handful of parallel processors to hundreds of them. Let Microsoft write operating systems for computers; Oracle will grow richer selling the operating systems for corporate metacomputers. US West Inc, which is spending \$2,000m for a 25% stake in the cable arm of Time Warner Inc, also plans to test Oracle's multimedia server, and Ellison suggests that Tele-Communications Inc, Time Warner and the other cable network operators are taking what Oracle is doing very seriously. "You can shoot me if we're not a beta test site at a cable company within a year," Ellison declares.

DATA GENERAL: STICKING WITH THE 88000

Data General Corp wants us all to be clear that it is sticking with the Motorola Inc 88000 RISC family for the time being, and it'll be at least the next two or three years before it makes a decision about where to take its processor business next. DG says it will take around 12 months to port the whole DG/UX operating system environment, including high-availability features, to another CPU architecture when that move is necessary. This year it expects to do some \$400m business on its 88000-based AViiON Unix system series, most of that sales of server configurations. Unix revenues surpassed those from its proprietary MV Eclipse line at the beginning of the year and in the UK, 80% of sales are now derived from its AViiON product line. DG, which aims to be a key player in the medium scale server market, says it is now seeing real business from customers that are downsizing. Not, it says, that users are throwing away their mainframes, rather they are avoiding mainframe upgrades by moving to open systems. DG says two thirds of its Unix business comes from new customers, the rest are sales into its installed Unix and MVS base - 60% of new AViiON systems go out with CLARiiON RAID attachments. In the UK, DG is still looking for an indirect channel to replace ICL Plc's personal computer reseller, Technology Plc, which formerly sold its kit: the two parted company because neither was achieving the results they wanted from the deal. According to DG's UK marketing director, John Coon, the decision was a business one - not only were the two organisations different both culturally and organisationally, but DG "underestimated the time it would take to get them [Technology] up to speed" - in other words, "the time it took to skill up Technology wasn't worth it in volume sales terms." Technology was the company's first UK distributor of low-end AViiON Unix servers and CLARiiON disk array products.

OLIVETTI TO UPGRADE CZECH SUBSIDIARY

Ing C Olivetti & Co SpA is to establish a full-blown subsidiary in the Czech Republic this autumn, according to direct sales manager Ivan Novoty. Until now, the company has been operating through a branch office in Prague's second district, which now employs 40 people. Olivetti turned over \$6.9m in 1992 in the Czech Republic, according to Novoty, but sales in the first two quarters of 1993 showed a 63% increase. Novoty said the main reason for establishing a subsidiary was that the Italian company was currently restricted to selling products for hard currency - ruling it out from some large tenders, particularly those involving local authorities. The firm's key customers are in the banking sector. In the closing days of 1992, Olivetti won an order to supply an LSX-4500 system from Stratus Computer Inc to the Bohemian Bank to manage SWIFT Society for Worldwide Interbank Financial Telecommunications connections configured with Mint software and seven automatic teller machines. The system will run the proprietary VOS operating system initially, but will be configured to run the Stratus FTX fault-tolerant Unix at a later date. Overall, Novoty claimed Olivetti holds the number one position as an automatic teller machine supplier in the country, with 80 units so far installed in the face of entrenched competition from IBM Corp and to a lesser extent NCR Corp.

BUDAPEST BANK SETS UNIX-BASED MASTERCARD TELLER NETWORK

The Budapest Bank has begun operating a Unix-based on-line Eurocard-MasterCard authorisation system, according to a report from *MTI*, the Hungarian news agency. The computer centre was supplied by IFS International Inc of New York with software developed by French firm Sciteria SA. Compagnie des Machines Bull SA supplied the bank with 80 automatic teller machines for the project. The total cost of the system including the automatic teller machines and point of sale network amounted to 300m Hungarian forints - approximately \$3.4m. Budapest Bank is budgeting to recoup its investment in the system within five years and aims to offer Eurocard-Master Card services to Hungarian forint account holders.

BIG THREE US AUTOMAKERS TEAM ON PARALLEL COMPUTING

In what looks like more bad news for the traditional mainframe makers, General Motors Corp, Ford Motor Co and Chrysler Corp have formed a Supercomputer Automotive Applications Partnership to collaborate on development of high-performance computers to advance current technology. The aim is to improve technology currently in use by both domestic and foreign automakers and create a clear competitive advantage for the US in automotive applications for parallel supercomputers. The computer partnership is the United States Council for Automotive Research's 12th research consortium. The new group will design portable software for high-performance parallel computers used by automotive design engineers. According to Associated Press, five Department of Energy laboratories and the University of Michigan have been asked to take part in the initial phases of the programme.

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Communications server manufacturer, **Xylogics Inc**, Burlington, Massachusetts, has appointed former director, Bruce Sachs, to take over as president and chief executive from Bruce Bergman, who held the job for 10 years.

Dataquest Japan, in its Japan Computer Market Annual Report, indicates that the total Japanese computer hardware market is worth \$19,500m, a 16% decline on the previous year. This contrasts with the 2% growth rate last year. The share taken by the so-called mid-range systems, including mainframes and office computers, fell to 62.9% in fiscal 1993 from 65.8% in fiscal 1992.

Redwood City, California-based **NeXT Computer Inc** and its master distributor, **Ingram Micro Inc**, say that the NeXTStep object-oriented operating environment has "greatly exceeded both companies' sales expectations" - but they do not give any figures.

Not content, it seems, with the PowerPC notebook that Tadpole Technology Plc is developing, **IBM Japan** says it is going to start doing one too, probably based on low-power 603 chip. It expects to start marketing the thing next year.

In preparing their overheads, **Unix Expo** suggests that all its speakers use the **Microsoft Corp** Windows-based package, Cricket Presents, which **Computer Associates Inc** is donating to the cause.

Novell Inc, which will post its third-quarter results on August 25, says it experienced a shortfall in European sales and expects turnover to be virtually flat for the second quarter. It clocked around \$8m in revenues from Unix Systems Laboratories as of June 14 - when it took over - to July 31 - the end of the quarter. Net income, excluding charges related to the acquisition, is expected to decline slightly.

Woburn, Massachusetts-based **Spectrum Associates Inc** has agreed to acquire **Minx Software Inc**. Both specialise in software for manufacturing companies.

Hewlett-Packard Co isn't planning to differentiate its basic COSE Common Desktop Environment offering from other implementations, but will layer value-added features on top.

Beyond the Unix vendors' planned unified Unix effort revealed last week (UX No 448), a further initiative will likely be required to harmonise or at least bring compatibility to suppliers' next-generation microkernel-based operating systems. The industry is already divided between implementations of the Chorus Systemes SA and Carnegie-Mellon University Mach microkernels, whilst Sun Microsystems Inc is pursuing its own Spring environment. Early signs that vendors are prepared to take action to prevent a repeat of the Unix kernel wars became apparent in June (UX No 440). One vendor has already described compatible microkernel technology as the "freeze-dried Unix" on to which a variety of toppings could be poured.

Rumours suggest **Mips Technologies Inc** has a 200MHz version of its R4400 RISC up and running in the labs, slated at 125SPECint92.

The SQL Access Group's Remote Database Access (RDA) specification for OSI is now available as an X/Open XPG document. It specifies a roadmap for independent software vendors to build interoperable, networked relational database systems. The group has also introduced a snapshot of an RDA specification version for TCP/IP networks. Each of the new specifications costs \$62. SAG: +1 603 434 0802.

What, we idly asked, comes above UHF or Ultra High Frequency, so we turned to a book for the answer: turns out there are two GHz microwave bands - the first, as might be expected, is SHF for Super High Frequency. But after that, they ran out of superlatives, so the highest of all is lamely designated EHF, for Extremely High Frequency.

The consortium du jour is the **Workflow Management Coalition**, a group chartered to create specifications for worldwide interoperability between different workflow systems and applications. Founders include CapGemini, Groupe Bull, EDS, General Motors Europe, ICL, IBM, Lotus, NCR, Siemens Nixdorf and Wang among others. They aim to create an API for sharing applications across multiple systems. +1 510 521 6190

Along with Hitachi Ltd (UX No 448), **Ok Electric** should also be debuting its Precision Architecture RISC microprocessor implementation this year in sample quantities: general shipment of both parts is expected during the first half of next year.

According to the wire, version 3.0 of **Apple Computer Inc's** A/UX Unix implementation does not run using System 7.1, and cannot, therefore, be used on a 7.1-dependent Macintosh - the very machines with enough power to run A/UX at a reasonable rate. An upgrade, 3.0.1, which would run under 7.1, has been promised for some time. But, Apple apparently underestimated the problem of making the 7.1 A/UX Finder facility complaint and developing A/UX 4.0 (PowerOpen) at the same time. Observers believe Apple has concentrated most of the development resources available on A/UX 4.0 because it wants to release PowerOpen with its PowerPC Macs. Furthermore, it seems the porting of A/UX 3.0 to Finder 7.1 has ceased. It was a short term fix in any case, the wires say.

As reported last week (UX 448), **Oracle Corp** - according to market research firm **International Data Corp** - leads the worldwide relational database management software market, commanding a 44% share. In second place is Informix Corp with 18%, followed by Sybase Inc at 12% and Ingres Corp at 9%. In Europe, Oracle is still the major player with a 46.5% market share, Informix comes second yet again with 16.7%, but Ingres and Sybase swap places - the former commands 14.6% of the market, the latter 5.9%.

From now on, companies wanting to resell **Sun Microsystems Inc's** SunConnect unit's network products will have to go through an authorisation programme. SunConnect will provide training, support and sales back-up, and there will be two levels of authorisation: registered resellers, which can sell or licence all SunConnect connectivity and low-end emulation products; and advanced resellers, which demonstrate expertise in functional product areas, such as network management and network services.

Austin, Texas-based **Pencom Software Inc** is collaborating with **Sun Microsystems Inc's** software arm, **SunSelect**, to develop training courses aimed at the Solaris development community. The Solaris Developer programme is scheduled to begin in January 1994 and will be undertaken at SunSelect's Authorised Education Centers worldwide.

Uniforum has hired a new director of marketing, Corinne Moore, from **Unisys**, where she was until recently manager of open systems standards. They're going to put her in charge of membership development, a matter of some urgency to the old usr/group.

Sun Microsystems Inc held a pep rally at an outdoor amphitheatre in California last week and it was only the intervention of the FAA, the US Federal Aviation Administration, that stopped CEO Scott McNealy from jet-packing in as planned. Foiled in his daredevilry, the "RISC CEO" looked to the Hell's Angels for inspiration and cycled in and up and down the bleachers to the delight of all. We assume the corporate culture was sufficiently reinforced.

Tivoli Systems Inc will show up at next month's Unix Expo show in New York with three new hardware ports of its Tivoli Management Environment, three new application modules for it and three new first-tier customers.

From the rumour mill: there are suggestions floating around that **Hewlett-Packard Co** and **IBM Corp** will join **Unix International** as part of this whole reunification effort (UX No 448).

There's also talk - and it's talk mind you - of its rival, **Open Software Foundation**, being allowed to wither on the vine, especially now many are convinced that its effort to bring the Distributed Management Environment to market in a timely fashion has failed. Why would OSF founder members, IBM and HP, be seeking a systems management technology solution via COSE otherwise?

There is further speculation that **Novell Inc** may be opening up a can of worms with its focus on the desktop and UnixWare. Some people are concerned that desktop features will be paramount in all future Unix development. What would that do to high-end vendors like Amdahl Corp, Sequent Computer Systems Inc and Tandem Computers Inc? Also will it scale? It's conceivable that Novell, by pursuing Microsoft Corp, may fragment the industry again in a different way, with Sun, IBM and HP lined up against it. Novell will, however, reportedly offer to license the upcoming UnixWare MP with NetWare hooks to OEMs.

Meanwhile, it seems that reunification celebrations centred around **IBM Corp** and **Hewlett-Packard Co** embracing a set of APIs, based at least partly on SVR4.0 (UX No 448), could happen Tuesday August 31, probably in New York City, sources said, although some think the timing might be a little aggressive - HP, IBM, Sun and USL have yet to sign-off on a code-sharing agreement.

Just how different things could be now... Back in 1986, **Microsoft Corp** offered Windows to **X/Open Co** for use as a public domain standard.

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ICL SETS DAIS OBJECT-ORIENTED DEVELOPMENT ENVIRONMENT

ICL Plc will use London's ObjectWorld '93 show between October 13 and 15 to formally debut Dais, a set of object-oriented software tools and services for developing and integrating distributed applications across Unix, VME, VMS, OS/2 and Windows operating systems. The client/server offering will support Codasyl and relational databases, including IDMS/X, Informix, Oracle and Ingres. Dais includes an Object Management Group CORBA-compliant object request broker, an interface definition language (IDL) compiler and comes with a set of object services and development tools layered on top. ICL says its first comprehensive home-grown object solution, architected at its Manchester-based Dais development centre, provides for faster coding, re-use and easier integration of applications because client and server components can be developed without knowledge of each others' implementation details or location. The firm claims Dais can be used as a toolkit to integrate existing proprietary and open systems, and includes system management facilities to improve error detection and fault repair. The platform-independent environment should allow users to add new systems, databases and operating system releases as they become available. Dais will be previewed at the Association of Major System Users conference at York University between October 5 and 8. Prices are expected to go from £50,000 for a standard application development system - multiples of that for a multivendor, enterprise-wide solution. ICL currently offers a hotch-potch of third party object products, including Objectivity Inc's database for its Delta corporate quality system and Electronic Data Processing Plc's Pick-based UniVision database, whilst Iona Technology Ltd's Orbix object request broker has also been developed on its systems and ICL had been expected to take the forthcoming object version of Unify Corp's Accell 4GL environment - Peacock - under its continuing OEM arrangement. ICL already has an object-oriented Xg graphics toolkit for X Windows development.

NOVELL INCREASES PRESSURE FOR UNIXWARE WITH NETWARE HOOKS

Novell Inc officials are beginning to approach major independent software vendors proposing that they exert pressure on vendors of rival Unix brands to unify behind UnixWare with NetWare hooks. Apparently the Novell people stopped short of suggesting that the ISVs withdraw their support for alternate forms of Unix, however it is believed Novell may urge large end users to do the same thing. ISVs reported that Novell - which left little doubt that it was actually interested in increasing NetWare sales - did not make a strong case for joining the Unix unification crusade. It did not explain what was in it for ISVs, suggest how they could proceed or show a willingness to make a serious marketing investment. The proposal did raise a series of new concerns for the ISVs however, who must now wrestle with the spectre of another potential Microsoft Corp in the making, as well as the effects of increased Unix commoditisation, competition and further fragmentation. All are possible ramifications of such Novell policies on their businesses. Novell's rapid absorption of Univel Inc and Unix System Laboratories, something it consistently denied it would do during the six months it took to finalise the deal, has left a bad taste in some mouths along with questions about how trustworthy Novell really is.

CRAY RESEARCH SPARC SUPERSERVER DUE IN FOURTH QUARTER - JOINT MARKETING DEAL WITH SUN ON THE TABLE

Supercomputer manufacturer, Cray Research Inc, Eagan, Minnesota, will release its first Sparc RISC-based "superserver" in October or November. The system will run the Solaris operating system and come in above Sun Microsystems Inc's 16 processor SparcCentre 2000 at the top-end of the Sparc systems market. Cray has been working with Sun for the past year and a half to develop the hardware architecture, and enable Cray applications to run seamlessly under Solaris. The two have focused on ensuring that existing Sun users have an easy upgrade path to the Cray machine should they so desire, and it is likely they will jointly market the new product, although talks on the subject have not yet been concluded. Such a deal would signal that the Cray machine marks the upper limit of Sun's own high-end system development. Cray said it decided to go with Sparc because it offers the best prospects for customers needing "exceptional power". In a further break with tradition, Cray also intends to sell both its entry level supercomputers and the new Sparc superserver via distributors - including Sun's third party outlets and new channels of its own. It reckons such a strategy is now viable because pricing is low enough for customers to buy the machines without needing major corporate approval. As a result, Cray says it is keen to "link up with other companies marketing in this area," and possibly OEM vendors too. The new Sparc superserver will be targeted at Cray's traditional science and engineering base and at commercial and government sectors. Meanwhile, its massively parallel processor based on Digital Equipment Corp's Alpha AXP chip (UX No 409), is now in beta testing, and is due for release at the end of September. Cray has no plans to change its direct sales strategy at the top end of the supercomputer market, however.

ANDF NET TO BE CAST WIDER

IN BID TO BREAK DEADLOCK...

Initiatives designed to break the deadlock which has so far prevented widespread industry acceptance and adoption of Architecture Neutral Distribution Format (ANDF) technology will soon begin to gather what supporters of the environment hope, will prove to be irreversible momentum. The efforts, backed by ANDF originator, the UK Defence Research Agency (DRA), will attack the problem from a number of angles. It hinges, in part, on re-positioning ANDF as a complete porting environment for producing binary code and as a mechanism for checking adherence to application programming interfaces as well as its use in its conceived role as a ground-breaking way of enabling software vendors to write, package and distribute one single version of an application, to run unchanged on laptops, workstations, servers, mainframes, even supercomputers.

...USL MOUNTS ISV PROGRAMME...

Unix System Labs has now formally licensed ANDF from DRA, giving it the right to bundle ANDF installers with its products, including OEM deliveries, at no extra charge, and create a portability compiler for Unix SVR4 based upon DRA's ANSI C compiler. USL hopes to lever ANDF into the industry by taking more than one approach. On the one hand - although it offers no timescales - USL is expected to begin bundling ANDF installers with its Unix operating system product. When suppliers catch up with the release, system vendors, integrators and customers will be the recipients of ANDF technology by default if not by desire. On the other hand, USL will shortly unveil Alpha versions of its ANDF technology as part of a programme aimed at winning the hearts and minds of independent software vendors. USL will demonstrate to ISVs how ANDF technology can facilitate the creation of different binary ports of an application or produce a single version of it which could be distributed across different platforms. USL won't name names, but claims to have a list of willing ISVs. Indeed, USL itself could create an inherently portable version of Unix using the same techniques, if enough vendors endorsed the ANDF concept. ANDF is not on Novell Inc's critical path for USL - important but not urgent is how one commentator described the new parent's commitment - but Novell is understood to be very interested in how ANDF could be used to distribute NetWare and NetWare applications across heterogeneous networks.

...USE AS COSE-CHECKER?

A by-product of ANDF that's being talked-up as a COSE application compliance-checker, is its ability to meticulously examine code against a specification, such as an application programming interface. DRA says if COSE and the unified Unix effort succeeds, then ANDF could be used to enforce it in a way that no other technology can. Indeed, USL's ANDF work has already exposed several problems that it has been able to feed back into COSE's effort. More ANDF details, page three.

EUROPEAN PACKAGED SOFTWARE MARKET MATURING QUICKLY, SAYS OVUM REPORT

The combined revenues of the top 25 suppliers of packaged software in Europe last year grew by 18% over the previous year to \$12,870m, according to market research firm Ovum Ltd, London. In contrast, revenue generated by the next 25 firms grew by only 7% to \$1,638m. Ovum suggests this reflects a maturing market with market share increasingly concentrated amongst the largest firms. Ovum's table of the top 50 suppliers of packaged software is dominated by US firms - Microsoft Corp moved into second place behind IBM Corp, with sales of \$1,254m and \$4,430m respectively. French and German firms dominate the Europeans in the list, which includes six French, five German, three UK, one Italian and one Spanish. The other entries are all US firms. Siemens Nixdorf Informationssysteme AG registered \$796m and dropped one place to third overall, Ing C Olivetti & Co SpA is sixth on packaged software sales which it estimates at \$518m, ICL Plc dropped one place to eighth on sales of an estimated \$441m, whilst Compagnie des Machines Bull SA fell three positions to ninth place, turning in sales of \$410m. Spain has its first entry in the table, the CCS business solutions and accountancy house at 41st place with sales of \$58.5m, although CCS is ultimately owned by Cisi Ingegnerie SA, the bureau and computer services division of CEA-Industrie, the French state-owned atomic energy commission. Of the other strictly software firms, Computer Associates Inc is at fourth place with packaged software sales estimated at \$791m, Oracle Corp at seventh with an estimated \$511m, Lotus Development Corp in tenth place with \$314m and Novell Inc (pre-Unix Systems Labs acquisition) at twelfth place with \$281m. Of the Unix firms, Intergraph Corp and ASK/Ingres share 20th place with \$139m, whilst Sun Microsystems Inc and Informix Software Inc share 31st place with \$84m. Santa Cruz Operation Inc comes in at 42nd place with \$54m and Progress Software Corp sneaked on the list at joint 50th place with sales of \$37m. Ovum says UK firm Peterborough Software Ltd and database supplier Sybase Inc just missed the list, with packaged software sales of \$35m and \$33m respectively. Wang Laboratories Inc, Andersen Consulting and Ernst & Young were amongst those which fell off the list. Ovum's figures are derived from sales of new licences and from software maintenance for software products - they do not include sales of bespoke and custom-built packages.

HP, IBM, SUN RALLY FIBRE CHANNEL ASSOCIATION

The Fibre Channel Systems Initiative of Hewlett-Packard Co, IBM Corp and Sun Microsystems Inc to set standards for future super-high-speed computer-to-computer and computer-to-peripherals interconnects, has now rallied some 20 organisations to form the Fibre Channel Association to promote Fibre Channel technology. Fibre Channel is designed to transmit large data files bi-directionally at 1Gbps and the association will seek to accelerate its use in future products and services. The partners stress that Fibre Channel is complementary to rather than competitive with other interconnect technologies such as Asynchronous Transfer Mode. The Association offers applicants a variety of membership options ranging from Educational to Principal Membership. Membership fees range from \$250 to \$5,000 a year. Meantime the Fibre Channel Systems Initiative has announced the first prototype implementation of the new technology, at Lawrence Livermore National Laboratory in Livermore, California, the test site for interoperability for the Initiative. Livermore will use the technology in complex computer simulations of occurrences such as fusion experiments, where simulations are so complex that often a supercomputer cannot complete them without first having a physicist manipulate the model on a workstation. This requires some 160Mb of data to be transferred from a supercomputer to a workstation for manual correction and then sent back to the supercomputer for completion. This process takes up to 40 minutes using an Ethernet connection, but with the prototype Fibre Channel interconnect it will take eight minutes, and with full 1Gbps interconnect available in the near future, it will come down to two seconds.

CONTROL DATA IN BIG REMARKETING DEAL WITH HP

Control Data Systems Inc, which up to now has majored on Unix machines using the Mips Technologies Inc R-series RISC - with IBM Corp RS/6000s a sideline in its systems integration business in some European markets, and a deal to sell Sun Microsystems Inc on a country-by-country basis signed early this year - has now gone for the big one and has taken on board Hewlett-Packard Co's HP Apollo 9000 Series 700 workstations and HP 9000 Series 800 business server hardware and software. The Arden Hills, Minnesota company plans to integrate the systems with applications for the aerospace, automotive, manufacturing, government and commercial markets. Terms of the agreement were not disclosed. Control Data will also add value to Hewlett-Packard systems in other application areas, putting up its ICEM CAD/CAM software, its Aria suite of storage management applications, and its EDL product data management software. And the two will implement a co-operative marketing plan to promote the new agreement, encompassing trade shows, advertising and other joint activities.

EUROPEAN SOFTWARE AND SERVICES SPEND TO GROW AT A SLUGGISH 6% THIS YEAR, SAYS INPUT

Overall spending on software and services in Europe during 1993 will grow by only 6% as a result of recession in the region. But as the recession eases over the next five years, the average growth rate will rise to 9%. These are the findings of London-based market research and consulting firm, Input Ltd, after questioning 400 leading European software and services vendors. Analyst for the European software and services market, Roger Fulton, also said that spending patterns were changing. Essentially, the recession has meant that companies' information technology budgets are generally not even rising at the rate of inflation. And IT managers are becoming increasingly aware they must prove the business case for new purchases because business managers are demanding to see clear value for their money. As a result, customers are looking for "computer architectures that match a company's own business architecture - one of small business units". And this has led to immense growth in demand for client-server systems, Unix obviously being included in this. While Fulton said that six months ago, there were hardly any products or services available in this arena, he now forecasts growth of between 70% and 80% per annum if things continue at current rates. Furthermore, traditional software houses are finding that customers no longer require customised software. Instead they want standardised off-the-shelf packages that are easy to integrate. This has led to increased demand for systems integration skills - predicted to show 19% compound annual growth; network services - a market forecast to grow at 17% per annum; and application software, with an estimated 12% growth rate. The fastest growing sector of all, however, is outsourcing. This is predicted to grow at a 20% annual compound rate as firms decide they want to concentrate on "core activities", leaving their computing to someone who can hopefully do it cheaper and better. No real growth is expected in such areas as bureau services or contract labour. Individual industry sectors are also changing their spending patterns. Organisations that have formerly over-invested in massive data centres, such as banks, are freezing expenditure, while distributed businesses, such as transportation firms, now find they can afford to buy technology and get a return on it. Finally, Fulton believes that the UK and Germany will lead recovery in the rest of Europe - the UK because "well managed UK vendors who have survived the past few years of recession are in better shape to succeed than most of their European competitors"; and Germany because it is in a prime position to exploit demand for technology in Eastern Europe on a long-term basis.

ANDF GAINS GROUND IN NEW ESPRIT STANDARDS INITIATIVE...

As well as finding favour in the supply side of the industry - see front page - Architecture Neutral Distribution Format (ANDF) technology is fast making friends in Europe, where the European Commission's Esprit technology initiative has already provided money under a project called Glue to encourage the development of new ANDF producers and installers. A second initiative, intended to push ANDF technology out into use, is still under wraps, but is understood to include the funding of three ISVs, plus ANDF developer the UK's Defence Research Agency (DRA) to establish some preliminary ANDF specifications that could eventually be offered to groups like X/Open Co, IEEE and NIST for use as open systems standards. In the meantime, the specifications could be used alongside established standards to allow government, defence and other large information technology procurers to exercise a much greater degree of control over their suppliers, by separating hardware and software purchasing considerations. Moreover, with the bulk of commercial users' resources for new software spent on in-house or custom development projects, observers say stable ANDF technologies would allow them to create a single version of an application on a server to download on to a heterogeneous network of systems without having to create multiple source trees.

...AS DRA INVESTIGATES VIABILITY OF COMMERCIAL ANDF BUSINESS...

When the Open Software Foundation revealed DRA's Ten15 as the winning submission to its architecture neutral distribution format technology request technology back in 1991 (UX No 337), DRA said it wan't in it for the money. However, the UK Ministry of Defence agency has now engaged a manager to investigate the long-term viability of building a commercial business from ANDF, including support and maintenance of users, the development of tools, installers and compilers. DRA reckons it is now funding only 25% of the overall ANDF effort and has 19 engineers working on the project. OSF has eight. DRA is reported to have a new ANDF portability kit up its sleeve, and says there are now product-quality ANDF installers available for Intel Corp 80386 and 80486 platforms running Unix SVR4.2 and SCO Unix, with Solaris on Sparc and ICL Plc Unix SVR4.2 on Sparc versions coming. Other ports already complete include those for Ultrix on Mips RISC - a Unix SVR4.2 for Mips variant is being developed on NEC's Mips box - HP-UX and NeXTStep on Motorola Inc 680x0. The OSF-sponsored RS/6000 version is complete, but not yet tuned - and DRA is negotiating to take back that work from OSF - whilst PA RISC and Alpha AXP variants are on the starting block. The Oracle Corp database and Informix Software Inc Wingz spreadsheet have already been used to test ANDF producer technologies - with no performance loss - and IXI Ltd has been putting the stuff through its graphics paces, testing it against X.desktop graphics libraries.

IXI APPOINTS NEW US CHIEF...

IXI Ltd's San Ramon, California office has been moved down to the campus headquarters of its Santa Cruz Operation Inc parent (in Santa Cruz) - IXI's Minneapolis office remains. SCO's UK, Cambridge-based graphical desktop unit has appointed former SCO OEM sales manager, Randall Brem, general manager of its IXI Corp US operation. Brem replaces former IXI Corp president Steve Klann, who, the firm says, was employed primarily to get its US concern off the ground. It was understood he'd be replaced once that task was complete - a process accelerated by SCO's acquisition of IXI earlier this year. Brem reports to Steve Sampson, IXI of worldwide operations who in turn reports to IXI boss Ray Anderson.

...SCO REORGANISES EXEC TEAM

Meanwhile, SCO president Lars Turndal announced a reorganisation of his executive management team: Mike Tilson is promoted to senior vice president, services; Scott McGregor is now senior vice president, product development; Greg Dougherty, becomes senior vice president, human resources; and Ray Anderson, senior vice president and managing director of IXI - Sam Spadafora, senior vice president and general manager of worldwide field operations, assumes responsibilities for worldwide SCO corporate marketing activities and Dan Steimle, senior vice president and chief financial officer, takes responsibility for SCO's legal department.

SEQUOIA SEEKS NEW RISC ARCHITECTURE AS HEWLETT-PACKARD RELATIONSHIP FOUNDERS

Although fault tolerant Unix machine builder Sequoia Systems Inc says it still intends to develop a RISC-based system, it looks increasingly doubtful that it will be based on the Hewlett-Packard Co Precision Architecture RISC which Sequoia signed for as part of the two firms' technology and OEM agreement which saw HP take a 10% stake in Sequoia back in 1989 (UX No 262). The Marlborough, Massachusetts-based firm is currently talking with several other unnamed CPU suppliers, but in the wake of its recent financial troubles, is now looking for a deal that involves joint funding and co-development, including staff input. HP - which OEMs Sequoia's existing Motorola Inc 680x0-based fault-tolerant boxes - has contributed no cash towards the firm's RISC project thus far. Meanwhile, Sequoia is still working with Toshiba Corp on a Sparc-based fault-tolerant system that Sequoia will have the right to OEM into some geographic markets, although no product is likely within the next 12 months. In the next six to eight months, however, Sequoia will launch a number of new 68040-based offerings - essentially enhancements at the low and high end of its range. Since Spring last year, Sequoia's US workforce has been reduced to 165 from 400. To try and get back on its feet again it intends henceforth to concentrate its sales effort on several specific vertical markets rather than just selling to anyone. The primary ones are finance, retail, and health care, although it will also offer support to customers in the telecommunications market - although under their agreement, HP has exclusive rights to sell Sequoia boxes into this sector. As part of this strategy, Sequoia also plans to work more closely with third party software houses to broaden the range of applications available in its chosen specialisations.

HP REPORTS UK UNIX SALES UP 94% IN LAST NINE MONTHS

On the back of its third quarter results - see below - Hewlett-Packard Co says that in the same nine-month period, to July 31, sales of its HP 9000 Series 800 servers in the UK were 121% greater than in the corresponding months last year. Workstation sales were up 68% and HP's total UK Unix hardware growth over the nine months was 93%, the firm says. The firm reported third quarter net profits up 44.1% at \$271.0m on turnover that rose 22.8% at \$4,961.0m. Net profit for the nine months rose 82.7% at \$879.0m against a period that included a \$332m charge for cumulative effect of an accounting change, on turnover that rose 23.7% at \$15,270m.

SOLBOURNE "IN PROFIT FOR FIRST TIME"

Solbourne Computer Inc's strategy of moving out of the desktop arena to focus on building higher margin servers as well as concentrating on optimising its kit for Oracle Financials users (UX No 413) has paid off - at the end of its last fiscal year, the Longmont, Colorado-based firm made its first ever profit. It expects double digit growth in the year ahead and would also be interested in flotation long-term if it can keep the momentum going. Solbourne now generates approximately 60% of its total revenues from Oracle customers, and expects to command 20% of the Oracle Financials market within 18 months. It even set up an "Oracle Solutions Centre" a few months ago to concentrate on this clientele, which now makes up 30% of its total installed base. The next likely move is to incorporate Oracle Manufacturing applications into its portfolio. Sun Microsystems Inc's Solaris operating system should be available on its servers by the first half of next year and while SVR4 is still being worked on, no timescales were available.

MARKET ROUNDUP

Thomson CSF SA's Alsys Inc's CASE Division has introduced TeleUse, a user interface management system that supports C, C++ and Ada. It's available from September.

Unisys Corp and **Compaq Computer Corp** have both signed a marketing agreement with **IBM Corp** to sell and support IBM's OS/2.21 operating system.

Simi Valley, California-based **Lohara Software Systems Inc** has introduced **Odyssey++**, an application development tool for client/server environments. It includes a designer workbench, which enables users to design and analyse applications; a distributed object manager, which enables developers to create different classes and objects across distributed systems; test and browser functions; and systems management capabilities. It supports the Object Management Group CORBA specification. **Odyssey++** is available on IBM Corp RS/6000s and Santa Cruz Operation Inc Unix machines. +1 805 522 5793.

Excalibur Technologies Inc's Pix/Tex/EFS electronic filing software is now available on **Hewlett-Packard Co HP 9000/700** workstations.

Edison, New Jersey-based **Four Seasons Software Inc's** SuperNova relational database now supports **Digital Equipment Corp Alpha AXP** systems running OSF/1.

Interleaf Corp has released **Active Link Tool**, a package that enables the interchange of data across different hardware, operating systems and applications.

San Francisco, California-based, **OpenService SJI Inc** has introduced **SystemWatch AI-L**, its network systems administration software for **Sun Microsystems Inc Sparcstations**. It enables users to automate routine systems administration tasks - such as monitoring system and application data - and initiates remedial actions and alerts. **SystemWatch AI-L** is available now - no prices were given. +1 904 645 1801.

Cincinnati, Ohio-based **Software Clearing House Inc** has signed a distribution contract with Australian firm **Tricom Pty**, Sydney, to sell and support its line of Unix and Pick software products in Australia and New Zealand.

Fort Lauderdale, Florida-based **Encore Computer Corp** has a joint development and marketing agreement with **Zortec Inc** to put **System Z**, **Zortec's** 4GL tool on **Encore's** Infinity 90 Unix fault-tolerant systems.

Burlington, Massachusetts-based **Cognos Inc** has announced a joint development and marketing agreement with **Sybase Inc** to provide an interface between **Cognos' PowerHouse** application development tool and **Sybase's** SQL Server.

Canadian software developer, **SmartSystems Corp**, has introduced object-oriented enhancements to **SmartStar Vision**, its application development environment. **SmartStar 1.1** includes an **OpenArea** object, which enables externally developed widgets to be integrated into the software as well as real-time functions and hooks into its 4GL environment, **SmartGL**. Server versions of **SmartStar Vision 1.1** support IBM, DEC, HP and Sun kit - client software runs under Windows, Apple Macs and X-terminals. Development kits are priced from £10,000 to £14,000 - end-user licenses costs £100 to £600. +44 865 784567.

Puzzle Systems Corp, Morgan Hill, California, has introduced **SoftNet Client**, a **Novell NetWare** emulation package for Unix. The software enables **Hewlett-Packard Co**, **Silicon Graphics Inc** and **Sun Microsystems Inc Sparc** workstations to act as **NetWare** clients to **Intel-based** **NetWare** servers. **SCO Unix** support will follow in March. **SoftNet** costs from \$400. +1 408 779 9909.

MS Utilities has released its custom menu builder and utility tool kit **MultiMenu** for AIX, SunOS and 80386/80486 Unix System V platforms, priced from \$300 to \$600. The **Riverside, New Jersey-based** firm claims **MultiMenu** can access application or system administration and utility functions in a keystroke. **Unidirect** is distributing the product. +1 609 764-1923

Houston, Texas-based **Visual Numerics Inc** - the result of **IMSL Inc** and **Precision Visuals Inc** merging - has launched **Wave Widgets**, a rapid prototyping toolkit, for its visual data analysis software, **PV-Wave**. The software enables users to create graphical user interface front-ends without programming experience. Available now, **Wave Widgets** runs on various Unix platforms and costs £4,000.

Menlo Park, California-based **Lucid Inc** has released a set of tools for its Common Lisp development environment: **XLT** costs \$1,800. +1 415 329 8400

Iomega Corp, Roy, Utah, has introduced **LaserSafe Pro**, a 1Gb re-writeable magneto-optical drive for personal computers and workstations. The **SCSI-2** drive costs \$5,000.

Cincinnati, Ohio-based **SCH Inc** has introduced **SCH:SAM**, a systems administration management environment for Unix. It includes a print management utility, batch job scheduler, tape backup control and a toolkit for customising the environment. **SCH:SAM** runs on **Sun Microsystems Inc Sparcs**, **IBM Corp RS/6000s**, **Santa Cruz Operation Unix**, **Data General Corp AViiONs** and **Hewlett-Packard Co's** workstations. +1 301 231 9393.

Ares International Corp is to resell **Objectivity Inc's** **Objectivity/DB** object database in Taiwan. **Objectivity**: +1 415 688 8000. **Ares**: 886 2522 1351

Financial application house, **IMRS**, Stamford, Connecticut, is teaming with **Sybase Inc** to develop client-server-based business reporting solutions: first up under the agreement is an SQL version of **IRMS' Hyperion** network-based reporting software which will run on all platforms that support **Sybase SQL Server**.

Arlington, Texas-based **Thursby Software Systems Inc's** latest **TSSnet** software allows **SunSoft Inc** Solaris-based systems to act as full **DECnet Phase IV** end nodes, enabling remote login between Solaris, **VAX/VMS** and other **TSSnet-based** systems such as **Apple Macintoshes** - prices go from \$1,300: +1 817 478 5070.

VI Corp, Northampton, Massachusetts, says **DataViews**, its dynamic data visualisation tool for building graphical user interfaces, will be available on **DEC's Alpha AXP**, **OpenVMS** and **OSF/1** platforms by the Spring.

FTP Software Inc has put a Windows front-end on its version of **NFS**. **PCTCPNET**, part of its new version of **PC/TCP** for DOS and Windows, provides print re-direction and management through **Windows 3.1's** file manager or through its own network control panel. +1 508 685 4000

AT&T Co has ported its **BaseWorx** administration and maintenance software development environment for the telecommunications industry to **NCR Corp's** **System 3000** and **StarServer** kit: **Hewlett-Packard Co**, **Digital Equipment Corp**, **Motorola Computer Group**, **Stratus Computer Inc** and **Sun Microsystems Inc** have also agreed to market **BaseWorx** on their systems.

SofTech Inc, Waltham, Massachusetts, has won a \$2.2m slice of **GTE Government Systems Corp's** eight-year contract to help the **US Joint Chiefs of Staff** in the **Pentagon** migrate to open systems.

Cisco Systems says it is the first vendor of internetwork routers to get its stuff branded **GOSIP Version 2-compliant** at a third-party testing laboratory.

Instrumental Inc, Minneapolis, Minnesota, has got its **PerfStat** performance monitoring software up on supercomputers at the **Minnesota Supercomputer Center Inc**, the **San Diego Supercomputer Center** and **Du Pont**. +1 612 920 6188

Innovus Inc, Hamilton, Ontario, is to market **Legato Inc's** **Net-Worker** network backup software on **HP Unix** boxes. +1 416 529-8117

Beaverton, Oregon-based Cadre Technologies Inc is shipping **Ensemble**, its development and maintenance tool for testing C programs, on **IBM**, **HP** and **DEC** workstations.

Seattle, Washington-based **Spry Inc** has added **NFS** support for its **Air for Workgroups** product: **NFS** will enable **Air for Workgroups** users to access **TCP/IP** and **Unix** hosts for file sharing, it says.

DEC has introduced **MediaImpact**, a multimedia authoring application development toolkit for **DEC** workstations: it includes a **WYSIWYG** graphics editor, a palette of **OSF/Motif** authoring tools and has digitised audio and image capabilities. It is priced from \$3,500 to \$4,700.

When Poland holds its **General Parliamentary Elections** in September this year, the ballots will be counted on **55 SCO Open Server** and **SCO Open Desktop** systems running with **Informix** databases on **Compaq Computer 80486** hardware, **SCO** boasts.

OMG TO ASK FOR MORE INTEROPERABLE TECHNOLOGIES

The Object Management Group Inc intends to issue a request for proposals next month for important bits of technology to add to its Object Request Broker, which forms part of the Object Management Architecture. OMG will call for technologies that enable different vendors' ORB-compliant products to interoperate; that define an object directory; and that provide bindings between languages, such as C++, Smalltalk, Cobol, and the Common Object Request Broker Architecture's Interface Definition Language - CORBA version 1.1 is the first version of the ORB specification. But OMG president, Chris Stone said that it could take another six to nine months to write the full specification for CORBA 2. Nonetheless, it seems likely that some vendors will release CORBA 2-compliant products within that time-scale as they will also be supplying the technology. Still, before users can deploy CORBA-based applications, several other components of the Object Management Architecture need to be specified, including Object Services (UX 442). Some specifications for the latter should be published next month, but it could be mid-1995 before all aspects of the Object Management Architecture are available.

FIRST DRAFT OF OBJECT COBOL STANDARDS DUE IN NOVEMBER

As expected, the first draft proposals for standards relating to object-oriented Cobol should be released by the X3J4 Technical Committee in November. The Committee, which is accredited by the American National Standards Institute, comprises 14 corporate members, including IBM Corp, Hewlett-Packard Co, Unisys Corp, Hitachi Ltd, and Micro Focus Plc. Micro Focus is currently the only member to have an early release Cobol product with object extensions, while the firm's development worker, Raymond Obin, said he was asked to write the report because "they liked the way I write". Any standards produced by the Committee will also be endorsed by the influential US International Standards Organisation because "it saves work for them both". By the middle of next year, Obin reckons "we should know what it's [the standard's] going to look like". It will then go out for public review "to anyone who wants it". The standard should be complete by 1997.

UNISYS DULY LAUNCHES ITS U 6000/DT DESKTOP UNIX LINE

As promised, Unisys Corp has entered the desktop Unix market with its new U 6000/DT line of workstations. Designed to be used as high-performance clients and entry-level servers, the U 6000/DT systems are claimed to be the first in the industry specifically designed to run the Novell Inc UnixWare client-server operating system for seamless integration with Unix and NetWare environments. The two U 6000/DT systems are slimline desktop units with 33MHz 80486 or 66MHz 80486DX2 and will be upgradable to Pentium performance. They have built in Ethernet, and the entry-level U 6000/DT1 desktop starts at \$2,490, the client or server U 6000/DT2 costs from \$2,750. A DT1 with 16Mb, two EISA slots, 240Mb disk and colour costs \$4,500.

WYSE CLAIMS ALTOS UK'S DISTRIBUTION IS IN A MESS

Wyse Technology Inc and other inside sources say that the UK distribution strategy of Acer Group Inc's Altos Computers division is in disarray. They say the San Jose, California-based company is giving confusing messages to its value-added resellers, which are unclear whether they should be dealing with it direct or via distributors. Resellers are also unhappy at the level of support they are receiving from Altos at the moment. In the rush to sell its "personal computer" or low-end Unix boxes in volume to compete with vendors such as Compaq Computer Corp and Dell Computer Corp, the firm seems to have lost its way. Prices are being forced down, margins are being squeezed, but Altos is still not gaining market share. To make things worse, internal changes going on within the company, such as staff defections, are making resellers uncertain as to the future, and they, in turn, are starting to look elsewhere for business. No one at the company was available for comment.

VISUAL NUMERICS AND ADVANCED VISUAL BIDDING FOR UNIRAS

Lawyers say that a buyer has been found for graphics visualisation software house, Uniras A/S, which went bankrupt a few weeks ago (UX No 449). An official announcement should be forthcoming in the next week or so. Houston, Texas-based Visual Numerics Inc confirmed it has been in talks with the Danish company, the other known contender is Waltham, Massachusetts and Advanced Visual Systems Inc - Virginia-based Template Software Inc is also in the same market area. The original aim was to sell Uniras's entire assets as well as certain liabilities, but no details of the deal were available. Meanwhile, Visual Numerics rushed out the European release of its new Fortran graphics library for X Windows programmers, X-Xponent to try and exploit the Uniras customer base. It is available now. However, the product was released in the US about a month ago for Sun and IBM workstations and costs \$3,500 for a floating development licence, \$450 for a one-off runtime licence and \$300 for volumes of 50.

SUN SIGNS ESTONIAN DISTRIBUTOR

Sun Microsystems Inc is making a concerted effort to establish itself in the former East bloc countries - in January of this year, it set up an office in Poland, followed by another in Moscow in June, and it has now signed up its first distributor in Estonia. Microlink A/S is the leading distributor of information technology in the country and dominates the local personal computer market with its own locally manufactured kit. Sun will support Microlink through its new regional headquarters for the Nordic and Baltic states in Stockholm, Sweden because of "the close business and geo-political affinity between the two regions". The two companies have just won a contract with The Central Bank of Estonia to supply an unspecified number of Sparcstations and servers running the Solaris operating system, as the basis of an inter-banking message system. Financial terms were not disclosed.

AMDAHL MOVES TO USAGE-BASED PRICING FOR NEW UTS RELEASE

Amdahl Corp has taken its UTS mainframe Unix up to Version 4.1, which is based on the Unix System V.4.1 Enhanced Security release. It also adds the Amdahl-Universal Measurement Architecture, described as the first implementation of the specification developed by Unix International Inc's Performance Management Working Group to define interfaces for gathering and reporting data on system performance. And it supports Amdahl's OpenTune graphical performance monitor, an optional application that accesses and displays the information collected by the Universal Measurement Architecture. For the future, Amdahl is promising support for its UniTree hierarchical storage management system, X/Open Co Ltd Compatibility Guide 4-conformance, and the Open Software Foundation's Distributed Computing Environment. Amdahl has also altered the pricing structure to encourage its customers to try mainframe Unix out, and now bases pricing on usage. Initial licence fees range from \$15,000 to \$25,000 and monthly licence fees range from \$2,700 to \$5,250, it says.

UNIXWARE DOWN TO \$166

The \$249 CD-ROM-based UnixWare Personal Edition is now available for \$166 and the \$1,299 Application Server for \$870 from the Information Foundation, which cut a special one-year \$1.3m deal with Univel, according to our sister publication *Client Server News*. The Denver-based company also has a source code pact with Unix System Labs and is also offering Univel-identical add-ons such as a \$99 TCP/IP for UnixWare, \$99 C2 security, \$150 advanced Unix utilities and a \$299 C development system. Deeper discounts are available to reseller that buy five packages. These are the first and only street prices seen on UnixWare since Univel halved its prices back in March out of worry over Windows NT. +1 303 572 6486

RS/6000 ROUNDUP

More power to your elbow: C++ Powerbench version 1

C++ developers that need an object-oriented programming environment might consider IBM's C++ Powerbench 1.0. The program is a hybrid package, containing the AIX XL C++/6000 1.0 release 1.0 and SDE Workbench/6000 1.0 release 2.0 products. It handles construction, testing and maintenance of programs and includes such natty features as an AIX compiler, class libraries and a test coverage tool. Users can take advantage of a program debugger with a graphical user interface to the dbx and a static analyser which helps you to locate function calls and variable references. File management is included too. Users that want the program should have AIX V3 Release 2.0 for RS/6000, and they should run operating system upgrades PFT U402103 and U410169. AIXwindows Environment/6000 1.0 release 2 is also needed. It'll cost you from \$2,218 in group D5 up to \$17,760 in group G5.

AIX 3.2.4 bundles the latest fixes

RS/6000 users will sleep better in their beds knowing that the next version of the machine's AIX operating system has been introduced by IBM. Version 3.2.4, which is a release update package rather than a major upgrade, supports new storage, graphics and communications hardware. The update pigeonholes related fixes and enhancements into 'subsystems'. These systems contain all known fixes to date for a given component and will be complemented with cumulative fixes called Preventative Maintenance Packages, at intervals in the future. Additional communications support includes a software framework for AIX Network Installation over a Fibre Distributed Data Interface and SDLC for the MP/A. Users wanting to order separate features with their update package can choose between MP/A, RAIDiant Emergency Alternate Controller Takeover with its RAIDiant Easy and Dependable Interface software and IBM 9333 High-Performance Subsystem support. Improvements to the package also include reduced installation times and package size, enhanced methods for determining maintenance levels and install-update menus that match the Preventative Maintenance Package and Release Update Package plan. Users having problems with AIX/6000 can link into an electronic database as part of US Central Service.

TCP/IP support access for AIX/6000

IBM's software support services centre is providing TCP/IP access for services enhancements, starting in the fourth quarter this year. Users can access the Software Defect Support Centre over the Internet to search the product fix database and order an electronic Program Temporary Fix. IBM will also provide, gratis, three months of its SupportLine services for AIX/6000 users that install a new system unit between July 13 and December 31, so long as they accept an AIX/6000 Support Family Contract.

Just what exactly is a user under AIX?

IBM is so worried about the definition of an AIX/6000 user that it has issued a statement about it. AIX Version 3 for RS/6000 is licensed under the IBM Customer Agreement to a designated machine for a specified user tier. This will state the maximum number of concurrent interactive users authorised by the licence. A user is a terminal, remotely or locally attached, logged in for the entry and display or printing of information. Terminals logged into programs executing under AIX control aren't officially users. So now you know.

EXCALIBUR WINS IBM FOR ITS DOCUMENT RETRIEVAL SOFTWARE - HAS NEW MULTIMEDIA TOOLKIT

IBM Corp is going to distribute Excalibur Technologies' Pix-Tex/EFS document imaging and information retrieval software on its RS/6000 through its direct sales force. Meanwhile, Excalibur last week announced its XRS multimedia information retrieval software toolkit, claiming it's the first software designed to manage the storage and retrieval of multimedia data such as text, image, video and signal data in its native digital form. With XRS technology, it will no longer be necessary to manually label every frame of a movie with a description of its contents. Based on the company's Adaptive Pattern Recognition Processing (APRP), XRS uses an advanced technology to analyse patterns in digital data. The toolkit is a series of callable object libraries written in C that programmers can use to build multimedia indexing and retrieval capabilities directly into their applications. XRS was used to build PixTex/EFS.

SAROS SETS ITS DOCUMENT MANAGER

Saros Corp has announced Saros Document Manager version 1.0, a ready-to-use document management system that acts as a "front-end" to the Bellevue, Washington-based firm's client-server document management engine, Saros Mezzanine. The first release will run on Microsoft Corp Windows clients and all Mezzanine-supported environments. Client versions for Unix, Apple Computer Inc's Macintosh and MS-DOS are planned for the first quarter of 1994. Possible applications servers include OS/2 and Unix, but support for Windows NT and Novell Inc's NetWare Loadable Modules will follow by the end of the fourth quarter. A pre-configured standard edition for one Mezzanine server costs \$395. The enterprise edition, which runs on an unlimited number of peer-to-peer Mezzanine servers, costs \$495. Existing Mezzanine users only pay \$169, however.

VENTURCOM CLAIMS FIRST REAL-TIME UNIX SVR4.2

VenturCom claims to have the first real-time version of Unix SVR4.2 which it's calling Venix SVR4.2.1. It says it runs on any Intel Corp 80386/80486/Pentium machine with 6Mb memory, 100Mb disk and a 6150 cartridge tape drive. It comes with TCP/IP, NFS, X Windows, the Veritas journaling file system, Motif and Open Look as standard. As a workstation system, it is priced at \$995, quantity one. As a development system with ANSI C compiler, GUI development software, real-time development utilities and selected industrial device drives, it's priced at \$2,395 a seat. The company provides an OEM-oriented toolkit to help make the Venix kernel embeddable and even ROMable. In quantities of 2,000, the kernel can be purchased for \$59.

GENIAS HAS NEW DISTRIBUTED BATCH-QUEUING SOFTWARE

Germany's Genias Software GmbH, Regensburg - the centre for numerically-intensive applications and supercomputing - has announced release 3.1 of Codine, its computing in distributed network environment batch queuing software. It claims the software enables users to submit jobs to a workstation cluster as they would to a mainframe system. Genias says Codine presents a single view of the system to heterogeneous client/server environments and includes load balancing, restart, job migration, NQS interfacing, parallel computing, graphical user interfaces and accounting. +49 9401 92000.

FUJITSU LAUNCHES THREE-DIMENSIONAL GRAPHICS CHIPS FOR SUNs

Fujitsu Ltd has launched a new AG series of super-high-speed three-dimensional computer graphics accelerators for use in Sun Microsystems Inc workstations, which are sold by Fujitsu as the S series. The AG series incorporates advanced computer graphic techniques such as a reconfigurable parallel processing architecture for efficient polygon processing and hypercube architecture for execution of photorealistic algorithms - Fujitsu has applied for a total of 71 patents on the stuff. It says that this is the first time that photorealistic imaging has been performed by hardware, complete with shadows, light reflection and transparency. Fujitsu has also come out with new application software to go with the accelerator boards, including the Super BLD/SX architectural design presentation tool which can display video-rate simulation display in real-time, and plans to develop other application software including computer-aided design, fluid analysis and presentations. The company hopes to sell 6,000 units of the AG series in the next four years. They are priced at from \$46,000.

WANG PORTS PACE TO HP-UX

Wang Laboratories Inc - building on a relationship it began in March with Hewlett-Packard Co (UX No 427) - has ported its Pace for Open Systems client-server application development environment and Open/Image imaging software to Hewlett-Packard's HP 9000 Series Unix servers. Both products are available now. The former ranges from \$3,800 to \$121,600, no pricing for the latter. The Lowell, Massachusetts-based company has also made it easier for VS Pace customers to migrate to AIX and HP-UX by introducing new software utilities that enable them to move existing data, dictionary, and processing rules to a Unix server. Users can then redesign their applications to exploit Microsoft Corp's Windows interface and integrate with other Windows applications. The product costs \$3,500 and is available now.

HARD AND FAST ADHERENCE TO OPEN SYSTEMS STANDARDS MAY NOT BE APPROPRIATE:

CZECHS REVIEW PROCUREMENT

Czech ministers met on Wednesday August 11, the first day after the summer recess, to discuss possible reforms to the government's computer systems procurement policies. Dr Mirsolava Matousova, Head of Department of State Information System at the Ministry of the Economy - the body charged with the task of framing legislation regarding computer procurement and open systems standards across central and local government - also declared that she had received high-level requests to help draft statutes to prevent the abuse of data held on government-owned computer systems. The latter initiative follows the illegal sale of personal data on a million Czech citizens to Proctor & Gamble Co by civil servants in a minor scandal that hit the headlines last month. The officials, some of whom have since been dismissed, obtained the personal information from a computerised national register of Czech citizens. However, Dr Matousova asserted that the original installation of the multi-million dollar computer system that held the information had been conducted in a manner which lent itself to private profit being made by those able to access the system, and described some of those publicly accused over the sale as "puppets". The contract to supply the computer system - based on 170 Wyse Technology Inc systems running Santa Cruz Operation Inc Unix and Informix Corp's eponymous relational database - was won in October 1991 but is still not fully operational; a fact Dr Matousova attributes in part to 'conflict of interest' within the Interior Ministry preventing the suppliers from being able to take on a full partnership role. Dr Matousova, who says the State Information System Department originally suggested regulating the use of government computer data in the spring of 1991 but was told in response "haven't you got better things to do", said that the value of experience gained from the procurement and implementation process probably exceeded the actual value of the contract, noting: "No-one involved in the project would do things the same way again". On the issue of open system standards, Dr Matousova indicated that a decree passed in the spring of 1991 specifying XPG/3 compliance as mandatory, and outlining a number of other technical regulations and guidelines, might be watered down as adherence was proving costly and in some cases inappropriate for public sector organisations with heavy investments in old proprietary applications. While emphasising the benefits of open systems and expressing concerns over the signals that such a move might send, she described the spring 1991 decree as "to some extent premature".

EVENTS

The Meta Group is having its third annual application development conference, "Client/Server in the '90s," at the Hyatt Regency Westshore in Tampa, Florida September 27-October 1.

The 4th Unix Security Symposium sponsored by Usenix is set for October 4-6 at the Santa Clara Marriott Hotel in California.

The sixth annual Microprocessor Forum is set up October 18-20 at the Hyatt Regency Hotel in San Francisco. Next-generation RISC MPUs and the Pentium are on the menu. +1 707 824 4004

The next Unix Reseller Show and Conference is now set for April 19 through 21 of next year at the Dallas Convention Center.

The Sun User Group West Conference & Exhibition is set for December 6-9 at the San Jose Convention Center in California.

Hewlett-Packard Co's user meet, Interex '93 takes place at the Moscone Centre, San Francisco, between September 19 and 23.

C++ World is to be held October 18-22 at the Grand Kempinski Hotel in Dallas, promising attendance of 3,000 developers, programmers and project managers.

Hewlett-Packard Co has formed the OpenView Forum for developers and users of its OpenView network and system management suite: membership costs \$300 and the group will hold its first conference at the Westin Hotel, Dallas, between November 1 and 3. First to offer support are Duke Power, GTE Government Systems Corp, Martin Marietta and US West. +1 415 512 0865

EO TO ABSORB GO CORP, WHICH WILL LOSE UP TO HALF STAFF

In what was quickly relegated to a sidebar by the news of AT&T Co's proposal to acquire McCaw Cellular Communications Inc, the phone giant is further pursuing its multimedia goals by having personal digital assistant designer and manufacturer EO Inc, in which it is already the majority shareholder, acquire Foster City, California pen-driven operating system specialist Go Corp. Financial terms were not disclosed, but it is assumed that AT&T will emerge with a majority of the combined company. The deal is being billed as a major step toward creating a new standard for the emerging electronic organiser market, "offering customers a more elegant and compelling solution that can be delivered more quickly. By bringing EO and Go engineers together under one roof, with access to AT&T Bell Laboratories technology, the combined company can best achieve the tight integration of communications functions required for these products," AT&T commented.

THE UK GETS ITS THIRD FULL INTERNET SUPPLIER

Demon Internet Ltd, the London-based company that made its name by linking users to the Internet for "a-tenner-a-month" has become a full Internet supplier in the UK, with its own leased line to Sprintlink in Washington. It has also become a full member of the Commercial Internet Exchange, enabling it to exchange traffic with other suppliers. This makes it the third Internet provider in the country, alongside Pipex Ltd of Cambridge and UKNet at the University of Kent at Canterbury. Both organisations had previously supplied Demon with its Internet feed. Demon says it will continue to concentrate on his original low cost service (£12 join fee, £10 a month) which provides dial-up direct access to the Internet. Following the official launch last June the company claims 1,500 users with new subscriptions running at over 180 a month. Demon's new status does mean that it is able to branch out, and consequently is now offering what it calls, tongue in cheek, 'tunner-a month' - a reserved V32bis modem link costing £750 to set up, with a fixed monthly £100 charge. Demon says it also can offer dedicated leased-line feeds.

UNISYS FACES COMPETITION TO ITS SEQUENT LINE FROM LOCAL INTEGRATOR

As Unisys Corp pushes ahead to establish a joint venture in Hungary, the company's Czech operation is still negotiating to gain tax-free status after restructuring as a joint venture in both the Czech and Slovak Republics, announced June 2, but concluded in the Czech Republic at the beginning of this year. General manager Giorg Schoiswohl denied that the original objective in forming a joint venture with the Czech software house T-Soft was to secure tax concessions, and maintained he was still hoping for a successful conclusion to the talks. The outcome of the negotiations is commercially significant, as Unisys is believed to have won contracts valued at around \$100m the former Czech & Slovak Federal Republic last year - according to government computing advisor Jaroslav Zeleny - and now has 200 employees and secondments. Unisys itself refuses to reveal revenue figures. Key accounts include the Statni Banka Ceskoslovenska (State Bank of the CSFR), the Postovni Banka (Post Office Bank), the Ceska Statni Sportelna (Czech Savings Bank) and CSA (Czechoslovak Airlines). The State Bank installation is based on dual processor A16 mainframes while the Czech Savings bank is using an A19 mainframe-based system; the latter project is valued at \$90m in Unisys's 1992 annual report. However, with most of the major banks now already committed to projects, Unisys may be pushed to maintain such impressive momentum unless it is able to make headway in securing government and telecommunications-related accounts with the machines that it buys OEM from Sequent Computer Systems Corp. One potentially worrying development for Unisys is that Czech systems integrator APP Group - widely regarded as most successful of the local integrators - has formed a subsidiary to sell Sequent hardware and is currently pitching for a major account with Cez, the Czech energy supply company, in conjunction with Coopers & Lybrand, for which it is tipped to propose Sequent units running the Oracle Corp database. Schoiswohl said that he was unaware of this competition, and that he did not know whether Unisys's understanding was that it had exclusive rights to sell Symmetry in the Czech Republic.

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Univel Inc received its electronic edition of Unigram.X a few days late last week because Unigram, like some other UUNET users in the UK, fell victim of a plague of files full of ASCII character number 152 - Y with an umlaut - which infested our delivery system - this happens to be a Sun workstation. Apparently, an ex-Univel employee in California initiated - and the firm won't say whether it was done maliciously or not - a process that took over Univel's e-mail system for a number days the week before last, sending out huge files of Y's. Whether the files were sent to all Univel mail system subscribers or just to those who were logged in at the time, we don't know. But, it meant the previous week's issue of Unigram was bounced back to us with these files - two days on the trot. The files swallowed all the memory on our Sun, which had to be restored from back-up tapes. Consequently, until we were assured that the problem was fixed, Univel didn't get its Unigram. Univel has been everywhere this week, reassuring users that its e-mail system is clean living and decent again.

US reports say the IBM Corp PowerPC 601 notebook computer being developed for it by Tadpole Technology Plc (UX No 448) - and expected to be ready for next month's Unix Expo show in New York - will come with 8Mb RAM, two PCMCIA slots and the TrackPoint II keyboard pointing system. It will weigh 7.5lbs and run AIX, with OS/2, PowerOpen and Macintosh System 7 due at later dates.

Roel Pieper, who is expected to leave Unix System Labs soon (UX No 444), has given up the Unix Expo keynote address to Novell Inc boss, Ray Noorda. Noorda is expected to use the opportunity as a chance to explain Novell's Unix strategy, adding little that Unigram.X readers don't already know. While Noorda paints the big picture, he'll have at least one lieutenant there, possibly Unix Systems Group's Bob Davis, to cross the t's and dot the i's. Noorda speaks on September 22.

Pure Software Inc has signed Unixpac in Cremorne, New South Wales, to distribute its line in Australia and New Zealand.

International Data Corp claims that 45% of Unix sales are now made through the indirect channel.

Veritas Software Corp has put its stripped-down VxMirror disk mirroring software on Santa Cruz Operation Inc's multiprocessing operating system, SCO MPX. It's available immediately for \$1,200. Compaq Computer Corp has also agreed to ship Veritas Volume Manager (VxVM) and VxMirror disk management products with SCO Unix starting later this year.

In the US, IBM Corp has been demonstrating a personal computer-based speech recognition system that can take dictation at 70 words a minute with 97% accuracy - if trained to the user's pronunciation style and he pauses between words. It has a vocabulary of 20,000 words and more can be added. Dictated documents can reportedly also be passed directly to AIX applications. It's not commercially available yet, but is based on IBM's RS/6000-run Speech Server product, launched six months ago.

Siemens Nixdorf Informationssysteme AG has opened up a Distributed Computing Environment Competence Centre in Munich, Germany, to involve and educate third parties. SNI supplies DCE's Global Directory Service and developed the DCE reference for SVR4.

Ingram Micro will distribute NetFrame Systems Inc's superservers, targeting Unix network VARs and integrators.

Sparc International has brought out a catalogue of Sparc-based products from some 360 companies. Called "SparcBuilders", it costs \$12 for members, \$16 for non-members, but being a little out-of-synch with the seasons, is entitled the Spring Edition. Sparc is working on the autumn edition now, and aims to publish it in November. A single two-page listing in two successive catalogues costs \$1,000.

Wind River Systems Inc president, David St Charles, has resigned to become president and chief operating officer of CAE-oriented Integrated Systems Inc in California. The company's chairman and chief executive, Jerry Fiddler, has stepped in as acting president.

Corollary Inc and Lachman Technology Inc are teaming to develop communication products based upon their respective Connection Station and Streamware technologies.

Ottawa-based Fulcrum Technologies Inc has acquired the equity position in Exoterica Corporation held by the French company Site for \$1m. Exoterica, a fellow Canadian, provides document analysis and modeling tools particularly for Standard Generalised Markup Language (SGML) encoded structured text. Its flagship product is OmniMark. The companies expect to collaborate on tightening the links between collaborative and full-text databases based particularly on SGML and SQL standards. They hope to produce new document-based informational processing and retrieval products.

The latest one to join the flurry of publications closing down at the moment is *Workstation News*, a struggling US Unix magazine. Its last issue comes out in September.

Uniforum has selected its 1994 Research Award winners and will give each of the two selected \$15,000 a year for two years. The winners are Keith Golden of the University of Washington and Cheung-Hsien Lin of Purdue University. Golden has been developing a Unix-based "intelligent assistant" called Rodney that can already manipulate files, read and send e-mail, set up meetings and transfer files via file transfer protocol. Golden plans to extend Rodney's understanding of Unix and develop his ability to adapt and learn. Lin will do research on optimising communications protocols through adaptive acknowledgement.

Portable Graphics Inc in Austin, Texas has a version of its hardware-independent NPGL library that permits Silicon Graphics applications to be accessed through X terminals. The company says software developed with the Iris GL 4.0 library can be used remotely across a network on any colour X11 server without special graphics acceleration hardware. The NPGL-X will be released next month priced at \$1,900 for each host with unlimited X server access. A development license for Sun, HP, DEC, Kubota, SGI and IBM machines will be \$3,600.

A cynical David Smith, IDC's industry watcher, is sceptical of the business backing SVR4. The watchword of the pending reunification ceremony, he says, is likely to be "Smile and say SVID." He figures the COSE menu will simply be extended to include the SVID.

Like a murderer returning to the scene of the crime, the anticipated IBM Corp/Hewlett-Packard Co "reunification" festivities (UX Nos 448, 449), are currently scheduled to take place at the Equitable Building in New York City, the very site where five years ago the break-away Open Software Foundation got its start. HP confirms that the date has now shifted to Wednesday, September 1. Invitations are in the works. We are forced to admit we are very impressed with the poetic symmetry. Nice touch, guys.

Correction: Pencom Software Inc is developing Solaris training courses in concert with SunSoft not SunSelect as we reported (UX No 449). Sun planets get very testy about these things.

US sources say ICL Plc is readying its first Pentium-based DRS3000 Unix box for introduction at the end of the month: ICL has already announced Pentium PCs.

A professor up at the Harvard Business School is writing a book about alliances in high technology and is apparently going to give alliances. We can't wait to be interviewed.

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FRIENDS AND FOES UNITE IN SUPPORT FOR UNIX ENTENTE

The Unix industry will present its latest entente cordiale to the world this Wednesday in New York, though details of what has until recently been billed internally as universal Unix have already received a distinctly lukewarm reaction from those familiar with the plan. "If we all shout loud enough people will believe it and then we can move forward" was one insider's take on the proceedings. Perhaps "about time too" is a better way of describing what's on offer, namely a willingness by the Unix suppliers to standardise on a common set of application programming interface specifications which they'll adopt in their respective Unix implementations. The idea being that independent software vendors (ISVs) and other developers will be more easily able to write a single version of an application that will run under multiple Unices on the same architecture. In New York, at least 26 hardware and software vendors are expected to line up and support the development and maintenance of a common set of operating system application programming interfaces (API) that'll provide a single, agreed Unix operating system specification - though not a single Unix implementation. It won't mean that users will be able to buy a single version of an application for any version of Unix. The list of APIs and standards to be embraced includes at least XPG3 and XPG4, SVID 3.1, Posix, OSF Application Environment Specification, BSD 4.3 remote sockets, ANSI C and TCP/IP. The list of individual APIs is expected to number almost 1,000. Unix International and the Open Software Foundation - both now more subservient in the Unix process than ever - are being instructed to work together to form the APIs into a single construct over the coming weeks. From November the COSE firms will oversee the delivery of the specification to X/Open's fast-track standards process, where it will undergo the same review process as COSE's Common Desktop Environment, see below. A beta version of the specification will be detailed in a document expected sometime in the first half of next year. Although COSE firms, IBM, HP, USL, DEC and SunSoft have been instrumental in orchestrating the tryst, the participation of other vendors, such as ICL and SCO has been essential. ISVs expected at the event include the likes of WordPerfect, Island Graphics, Applix and Computer Associates. Whether this latest definition of Unix will be enough to project harmony at the volume end of the market depends upon the attitude of players like Unix-owner Novell (UX No 450), which now appears to be leveraging Unix SVR4 for its UnixWare campaign. Indeed, insiders say Wednesday's event will provide a counterweight to Novell ambitions until it at least becomes clear what Novell is going to do with Unix. HP and IBM, it is said, have long been keen to stabilize Unix until the long-term picture becomes clear. Whilst the volume end of the market is where the biggest potential benefits lie vis-a-vis Microsoft Corp Windows NT, it is ISVs developing for middle-ranking Unix offerings up on workstations and desk-side machines that are expected to garner most initial benefits from the definition. There will be little effect at the top-end of the market.

COSE JOINT DEVELOPMENT AGREEMENT STILL NOT SIGNED

Meanwhile, in what smacks of being a less than cordial state of affairs, it appears that nearly six months after the first pronouncement back at Uniforum (UX No 428), COSE technology contributors HP, IBM, SunSoft and USL have still not signed the joint development agreement (JDA) required to enable the commercial cross-licensing of the COSE Common Desktop Environment (CDE) components they have each contributed. Without a JDA, no real CDE development can proceed. Vendors won't be able to offer each other's technology as part of an integrated CDE set and ISVs have little to develop with except for what's been available for some time - essentially Motif. Technologies subject to licensing constraints are parts of HP's VUE, IBM's CUA, USL's SVR4.2 desktop manager and SunSoft's ToolTalk messaging system. ISV's plight is exacerbated by news that an early, integrated version of CDE has been ported to a single source tree but can't be made available until the JDA is signed. Pressure to sign the document is increasing, with competing ISVs and other suppliers keen to be amongst the first out with CDE products. Although legal negotiations required to secure the commercial side of CDE are separate from the initial agreement on what was to be included in CDE, and from the agreement to fast-track CDE specifications as X/Open Co standards, these weren't expected to delay the integration of CDE. Optimists note that X/Open won't require a legally binding, integrated CDE specification for its fast-track process until the initial CDE component review period is complete - around the beginning of next year - and say resources commandeered by this Wednesday's bash are likely to have held the negotiation process up. However, other sources believe there is "a real battle going on" now that the vendors in question have realised the strategic importance of some of the technology specifications they'll be giving up to their fellow COSE founders, CDE developers and to X/Open Co (though why it's taken then until now to figure that out is a mystery to us). With a JDA still not inked, CDE development is held in a legal straight-jacket, they argue, warning of acute embarrassment for COSE if ISVs having nothing to develop with at the forthcoming COSE developers conference in October. Furthermore, the same sources believe that although COSE prime movers HP and IBM are keen to press forward and sign the JDA, SunSoft and USL are being "less than helpful" in the task. Publicly, the firms have staked so much reputation on their COSE commitments that any retraction at this stage would be little short of commercial suicide.

HIGHLAND SUPPORTERS BACK

FLEXLM AS COSE STANDARD

Highland Software Inc is going to try to elbow its way into COSE to persuade it to adopt its FLEXlm network licence manager as a COSE standard. Highland believes its attempt may go against the COSE grain since all the companies in the COSE inner circle, except for Sun, are adherents in some way of FLEXlm's chief rival, the HP-developed NetLS product marketed by Gradient Technologies Inc. Highland claims FLEXlm is already the industry's de facto Unix network licensing standard, more widely used by software developers and users than NetLS. It said it received its charter to make the case to COSE from the first meeting of the Highland Users Group held recently at Sun's offices in California and co-hosted by Cadence Design Systems Inc and Sun planet SunPro. Highland said 110 FLEXlm licencees out of 375 in all attended, included Computervision, Wordperfect, Texas Instruments, Centerline Software, Interleaf, Island Graphics, IDE, Maspar, Mentor Graphics, HaL Computer and Synopsys as well as representatives from X/Open and Sparc International. Cadence's Chris Wendt said, "we represent a very large portion of the total worldwide Unix-based application software revenue and our interests cannot be ignored." Highland claims Unix developers don't want to support multiple licensing schemes or be forced to adopt one that is not the market favourite. Highland was last week attempting to contact key COSE companies to get a hearing, and is likely to seek a public forum such as the upcoming COSE developers conference to air the matter. Highland says it is now the sole supporter and developer of the FLEXlm since it terminated its joint development agreement with Globetrotter Software Inc on June 19. Their dispute is now in arbitration, a course Highland says it initiated. Globetrotter is seeking to enjoin Highland from maintaining and supporting the product and wants an accounting and sale of all joint venture assets including FLEXlm.

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NOVELL LAUNCHES UNIXWARE COMPATIBILITY PROGRAMME

In another attempt by Novell Inc to push UnixWare as an industry standard (UX No 450), the networking giant launched its new "Yes, it runs with UnixWare" campaign at InterOp last week. The aim of the campaign, Novell says, is to make it clear to both end-users and third party developers which "enterprise products" work together. There are two levels of product compatibility: the "Yes, it runs with UnixWare" logo indicates a third party manufacturer's product is compatible with the UnixWare operating system under criteria laid down by Novell; the "Yes, UnixWare Tested and Approved" certification programme is bestowed on products that have been tested and certified by Novell Laboratories. These must prove compatible with all current versions of UnixWare and other Novell offerings, including NetWare. Novell claims more than 150 firms have already joined its campaign, including Digital Equipment Corp, Intel Corp, 3Com Corp, and Oracle Corp. Products that run with UnixWare and NetWare will be listed in an annual Yes Resource Guide, due to be released in November.

PROCESS SOFTWARE EXPANDS EUROPEAN DISTRIBUTOR BASE

TCP/IP networking software supplier, Process Software Corp, is trying to expand its worldwide distribution channels, and to this end has signed up four new distributors in Europe - Les Ulis, France-based Dataaccess, which specialises in Digital Equipment Corp and Unix environments; Munich, Germany-based Brain Force Group, which focusses on systems management and networking; Lisse, the Netherlands-based Interparts Computer Products BV, which caters to DEC, Unix and personal computer users; and systems integrator, Bron, France-based Neuronet. The first three will market and distribute TCPWare and CompressNet as well as provide local support, while the latter will use the Framingham, Massachusetts-based firm's TCP/IP products in its portfolio.

DCE PRODUCTS NOW AVAILABLE FOR SOLARIS 2.2

As promised (UX No 441), Transarc Corp's distributed computing environment product family is now available for use with Sunsoft Inc's Solaris 2.2 operating system. Solaris Federated Services will enable users to run DCE networking services, which operate as a peer to SunSoft's ONC+ networking services over enterprise-wide networks. As of now, SunSoft - and its parent, Sun Microsystems Inc - will distribute and support Transarc's product range, which includes DCE Base Services - \$395 for a single licence - the DCE Cell Directory Service and the DCE Security Service - both \$3,100 - as well as the DCE Application Toolkit, which is needed for developing DCE-based applications and comes in at \$500. The DCE Distributed File System and DCE Enhanced File Service for Solaris are planned for the fourth quarter of 1993. And DCE products for the Solaris x86 environment are scheduled for the second half of 1994. Pricing and availability will be announced at the time.

SCO WORKING WITH PROGRAMMED LOGIC TOOLS

Somerset, New Jersey-based Programmed Logic Corporation, it seems, has had a quiet strategic alliance going with the Santa Cruz Operation Inc since at least April. SCO is doing something - we're not sure what exactly - with the UFS-compatible file system technologies underlying the start-up's product line which includes on-the-fly compression, high-performance caching and throughput and encryption (UX No 403). SCO is also believed to be delving into some of the new features Programmed Logic will be trotting out such as versioning, on-line backup, undelete and user-configurable compression.

DEC REVEALS OBJECT SOFTWARE LINE

Digital Equipment Corp may have pulled out of London's ObjectWorld show in October, but that doesn't mean to say its been quiet on the object-oriented technology front - in fact, it has a raft of new products in the pipeline. First comes Percussion, or ObjectWorks to insiders - the product was renamed because the trademark already belonged to Rank Xerox Corp. Percussion is essentially a client/server-based framework for integrating business or office applications, which it treats as objects. The product is based on DEC's Application Control Architecture Services - ACA - an implementation of ACA Specifications, which form part of the Object Management Group's Common Object Request Broker Architecture. ACA Services enable users to integrate both off-the-shelf and their own custom-built applications into the Percussion framework. Percussion also provides customers with a graphical front-end. It will be available commercially from mid-October, but no pricing has been decided yet. Initially, on the server side, it will run under OpenVMS and Ultrix operating systems, Hewlett-Packard Co's HP-UX, IBM Corp's AIX, and Santa Cruz Operation Inc's version of Unix. There are also plans to port it to both ICL Plc's DRS/6000s and Microsoft Corp's Windows NT. On the client side, Percussion will run under OSF/1, Presentation Manager, Motif and Microsoft Windows. The product was developed two years ago for a specific, although unnamed customer site in Austria, but has been sold up till now on a project basis to other firms in Germany and Switzerland. DEC has also used it in systems integration work for the past 12 months or so. The second offering is CohesionWorx, a "plug-and-play" object-oriented software engineering environment for client/server architectures. The product is based on DEC's DecFuse programming and support environment, and users integrate third party maintenance and software development tools into the CohesionWorx framework via the ACA Services mentioned above. Each third party tool appears as an icon on IXI Ltd's X.desktop graphical user interface. CohesionWorx starts shipping in November, running on OSF/1, Sun Microsystems Inc's SunOS, HP UX, AIX, and OpenVMS. It will cost \$2,300 per licence, or \$1,550 in December at special discount rates. The third product is Cohesion Team C. Team C is based on Cohesion, but comes with third party tools already built in by DEC. Tools include software metrics, configuration management, process management, analysis and design as well as requirements traceability. It is an "off-the-shelf" product that is "90%-populated", and will be available from the first quarter of 1994 at \$5,500.

...ADOPTS IBM'S OPENVIEW-DERIVED NETVIEW FOR POLYCENTER

Underlining the extent to which the old order has broken up, Digital Equipment Corp has decided that rather than develop its own network management system, it will adopt IBM Corp's NetView as its own product - no mention of the fact that NetView/6000 is based on parts of Hewlett-Packard Co's OpenView. IBM licensed the OpenView Network Node Manager and Network Management Server to be the basis of NetView/6000 back in 1991. DEC is licensing IBM's NetView/6000 and will convert it to run under the DEC OSF/1 variant of Unix on the new 64-bit Alpha AXP processor. It will be out in first quarter 1994, and will be marketed as Polycenter NetView. The two will develop future NetView/6000 and Polycenter NetView versions from a single code base and will release products simultaneously on both DEC and IBM hardware. The agreement also covers joint network and systems management product research and development, and joint product announcements, and recruitment of management application developers to join a combined IBM and DEC programme - a merger of the Polycenter Partners programme and the NetView/6000 Association into a single, enhanced programme providing consistent and standard application programming interfaces and an end-user interface. Polycenter NetView will be DEC's network management system for Alpha AXP and will be enhanced to support management of DEC's network environment, and provide customers with a framework for integration of other network and systems management applications. DEC promises continued support for its current Polycenter products on VAX/VMS and RISC/Ultrix and special introductory offers for customers that want to go to Polycenter NetView.

ARKHON TO OFFER SYSTEMS MANAGEMENT SUPERSET

Arkhn Technologies Inc, an 18-month-old Cerritos, California-based start-up, is working on a super-systems management architecture that, it says, will knit together the disparate, if not chaotic, pieces of systems management technology that are currently available. It aims to address the problems of enterprise-wide distributed network, systems and applications control and management with a three-tiered approach that includes the server, the client and the middleware. Currently, the user faces a tangle of conflicting standards, incompatible hardware architectures and operating systems, multiple network devices, sub-networks subordinate to differing management philosophies and the task interoperating among protocols. Hoping to smooth out the inconsistencies, initial Arkhn products, due in the first half of next year, will support Sun Microsystems Inc servers to start with as well as the full gamut of clients: Macs, MS-DOS, OS/2, X stations and Windows NT in a TCP/IP network. The company intends to broaden its server base with time. Product packaging and pricing remains to be decided, according to company president and chief executive Stan Tomsic, former vice president of sales at MVS Software Inc. Most likely it will offer a base product coupled with optional add-ons, he said, stressing it will be affordable. Arkhn is promising its technology will supply full data integration under a single Motif-based user interface offering a consistent look-and-feel. Its development platform is the Visix Software Inc Galaxy system. Arkhn says its system will provide remote systems and remote applications administration as well as network administration from a single console. It is integrating a simple network management protocol (SNMP) manager with a protocol analyser, an artificial intelligence (AI) engine, the Object Management Group's Object Request Broker, a trouble-ticketing system, a network design and modelling tool and a data repository. The Arkhn approach, it says, accommodates legacy systems, while incorporating emerging technologies. The company has tied up with 11 vendor partners for pieces it needs including CACI Products Company for modelling, Inference Corp for the AI engine, Network Managers Ltd for SNMP management software, Oracle Corp for the database and RSA Data Security Inc for encryption. Arkhn says it is now starting to work with a task force of client partners that will help prioritize the system's capabilities, edit the interface and test new releases. These include Chemical Bank, Tandy, Texaco, Visa, Informix, Wells Fargo and Bank of America where Arkhn's software development director Jim Overby hails from. Arkhn, which estimates it could be a \$5m concern in three years, currently has eight employees and is privately funded with \$2m in seed capital. No venture money is involved. It expects its products to generate whatever further funding is necessary.

HP "PLANS RISC-BASED LAPTOP"

US reports say Hewlett-Packard Co is working on a RISC-based laptop computer that could rival offerings from IBM Corp and Sun Microsystems Inc. The new product may well be based on the long-awaited and low cost Precision Architecture 7100LC chip, and will be targeted at users that need to access multiple databases and require multitasking capabilities, such as travelling product managers. But reports say, the laptop will not compete with the company's Advanced Micro Devices Inc i386-based notebook, Omnibook - the Omnibook is the first of a family, and Hewlett-Packard intends to release "a regular string of enhancements" over the next three to six months. The new RISC laptop should provide better connectivity and other value-added features such as security and robust graphics capabilities. It will also probably have a colour screen.

IBM SIGNS FOR WABI - LICENSES ITS RS/6000 EMULATOR TO SUNSELECT

As expected for some time, IBM Corp has finally agreed terms with Sun Microsystems Inc's SunSelect personal computer connectivity unit for Wabi, and will put the Windows-on-Unix software up on its RS/6000 machines. Wabi, which when complete should ideally allow users to run many out-of-the-box Microsoft Corp Windows applications on their Unix systems without needing MS-DOS or Windows itself, was announced back in May (UX No 434) and has been winning a steady stream of supporters. Hewlett-Packard Co licensed Wabi back in July. The only surprise here is the fact that IBM, which has been very enthusiastic about the project, has also licensed unidentified technologies to SunSelect that the pair will integrate into Wabi and make available in some future Wabi release. The two are being very hush-hush about exactly what these technologies are. SunSelect refuses to say anything at all and IBM will only say that the aim is to improve the Wabi's performance running Windows applications. The development work will reportedly be done by both IBM's corporate research department and its Austin-based RISC and software development team. Unix System Labs is also a co-developer. Unigram learns, however, that IBM has been working for sometime on an emulator for the RS/6000 that will be at least on a par with the Microsoft Corp-blessed Insignia Solutions Inc SoftWindows system. It is this that IBM is bringing over to SunSelect. IBM says it'll run Windows and MS-DOS applications faster than native. Wabi, meanwhile - described politely in some quarters as "not the fastest emulator in the world" - is expected to be released to OEMs at some unspecified date in the next few weeks. After that it's up to the OEMs to time their Wabi release with their operating system releases, SunSelect said. SunSelect denied reports it would ship Wabi with a Windows emulator or any Windows code or that it has, or is, changing the face of Wabi to look more like Motif because of inquiries in the field by Microsoft lawyers. It also said that it was currently impossible to predict whether Wabi would be able to run the next iterations of Word and Excel, expected out this autumn and likely to be popular. Observers claim Sun could be embarrassed and Wabi discredited if it doesn't.

TEXAS TO MAKE ULTRASPARCS FOR SUN

And so it has come to pass, just as we expected (UX No 427), that Texas Instruments Inc, manufacturers of Sun Microsystems Inc MicroSparc and SuperSparc chips, is also going to make the UltraSparc-I, the first in a line of high-end binary-compatible 64-bit CMOS-based Sparcs not due until late next year. Meanwhile, Sun's Sparc Technology Business (STB) unit says it is going to make good on its promises to cloners of early access to UltraSparc-I core technologies, development tools, simulation software, diagnostics and processor prototypes beginning in November. STB figures the new early access programme offers cloners a two-year jump on development cycles. Licensees will have access to all technical data and UltraSparc-I prototypes as they become available. Participation in the total programme, which includes design reviews and briefings, costs \$750,000. The UltraSparc design, which adheres to the Sparc Version 9 specification, calls for it to deliver 200 SPECint92 performance at clock speeds of 100MHz-170MHz. TI is not expected to be UltraSparc's sole fabricator. Intergraph Corp, which is making the chip bi-endian so it can run the port of Microsoft's Windows NT operating system that it is doing (UX No 444), is interested in making the chip itself or having its silicon houses do it. All UltraSparcs made will be bi-endian, a development likely to be extended to MicroSparcs and SuperSparcs as well. To date, TI claims to have shipped more than 300,000 Sparc chips, more than any other RISC processor.

IBM "TO DECLARE WAR ON INTEL BY DOING CLEAN VERSIONS OF 80486, PENTIUM" ...

Despite having a 10-year agreement with Intel Corp that allows it to create its own versions of iAPX-86 microprocessors provided they meet no more than 20% of its requirement for such parts, IBM Corp is risking a major row with the chipmaker by also developing its own "clean room" variants, Reuters writer Therese Poletti reports. The news wire hears that IBM is developing clean microcode for its own versions of both the 80486 and Pentium. The company would also be free to sell unlimited numbers of the chips on the merchant market, although a legal challenge from Intel seems certain. A spokesman for the IBM Technology Products semiconductor division said that IBM does not comment on products in development, but analysts said that such a project is indeed in the works, although like all IBM projects, it might never see the light of day. The first IBM designed Intel-compatible chip is about six to 12 months from completion but few details were available. Analysts reckon that relations between IBM and Intel have become strained, in part due to IBM's plans to assault Intel's strong position, but both firms said that is not true. "That is actually one company we have had a good relationship with," said Michele Bourdon, an Intel spokeswoman. "We have a really good relationship with them." But sources said one example of the strain between IBM and Intel is a recent shift in another joint project - the joint design and manufacturing agreement signed in November 1991, under which IBM and Intel were to do new iAPX-86 versions at a design centre in Boca Raton, Florida called the Robert Noyce Development Center. The deal gave IBM the exclusive right to details about future Intel chips about four months ahead of its rivals, but IBM can use the parts only for its own internal designs. The venture has now quietly moved to Folsom, California, near the Intel Pentium plant, and is now focussing on low-power chips for portable computers. IBM is said to be hoping that the clean Pentium effort coupled with PowerPC will make IBM a force in microprocessors.

PARCPLACE DEVELOPMENT ENVIRONMENT CANCELLED DUE TO LACK OF INTEREST

ParcPlace Systems is discontinuing its ObjectWorks C++ product to focus on its C++ graphical user interface builder, Object Builder and SmallTalk-based Visual Works. It has found that Unix developers don't want complete development environment, preferring instead to assemble them from tools offered by a variety of companies. It will continue to support ObjectWorks C++ until next August. Meanwhile it has arranged for Sun, HP and Centerline Software, which also distributes its Object Builder and Object Interface Builder, to offer to shift ObjectWorks customers to their own products.

BACK IN BUYING MODE, LEGENT MOVES FOR NETWORK INC

Legent Corp, Vienna, Virginia is in buying mode again and has signed a letter of intent to acquire the assets of privately-held Networx Inc, a Bellevue, Washington developer of problem management applications for client-server computing. Legent reckons it is getting leading-edge technology that will accelerate its move into the client/server management arena. Networx's latest product is Paradigm, a Unix-based trouble ticketing, help desk and inventory management application that runs under Hewlett-Packard's OpenView, IBM Corp's NetView/6000 and SunConnect Inc's Sun-Net Manager network management systems. Paradigm is designed to enable administrators managing networks of varying sizes to respond efficiently and proactively to problems that occur throughout the enterprise. In particular, it serves as the base technology for IBM's AIX TroubleTicket/6000 product. Terms of the proposed acquisition were not disclosed and no indication was given of Networx's size. The year-old Networx will be run as an independent business unit, with its people and activities intact. Networx president Chris Slatt becomes a division vice president of Legent, reporting to chief executive David Wepmore. Legent's worldwide sales force will represent the Networx product line. The companies said they had no intention of merging when they began talking. Similar views drove them together.

APPLE PUTS BACK FIRST POWERPC MACs TO NEXT MARCH

Apple Computer Inc's plans to celebrate the tenth birthday of the Macintosh in January with the launch of the first PowerPC Macs have been blown off course, *MacWeek* reports - high-ranking company officials this month decided to postpone the RISC roll-out until March 14, according to sources tapped by the paper. The plan is now to announce three new products incorporating the PowerPC 601 in March - one-slot and three-slot systems, and also a 601-based accelerator board for older NuBus Macs. One benefit of the delay should be that the company will have PowerPC-based Macs on dealer shelves in volume at the launch date - top management is said to have insisted that six weeks' supply of the new machines be on hand at the launch to ensure the transition will not be marred by the kinds of shortages, which have angered customers and resellers in the wake of several recent Apple product introductions. Sources also noted other problems, including a slight delay in getting Apple's PlainTalk speech-recognition-and-synthesis software to run on the new processor. The single-slot machine is expected to come in a Centris 610-like case with a processor direct slot; a NuBus adaptor will be needed to enable users to install NuBus boards. The other machine will have three NuBus slots, and the PowerPC NuBus accelerator board has been developed in response to demands from some customers for Apple upgrades from older Macs, although it may be killed before launch because performance falls so far below native PowerPC machines. Apple's second-generation RISC machines are now not likely to appear until the beginning of 1995, *MacWeek* says, although an intermediate model might be introduced around September 1994, sources said. These will incorporate the new Peripheral Component Interconnect bus. Apple commented only that it has never announced a specific date for releasing PowerPC Macs. "We've said all along that we will ship them in the first half of 1994, and we're on track," it noted.

PROJECT REALITY: NINTENDO TURNS TO SILICON GRAPHICS FOR MIPS CHIPS, GRAPHICS ENGINE

Silicon Graphics Inc's growing enthusiasm for the fun-and-games end of the business - its machines were behind-the-scenes stars of the Jurassic Park movie - has now taken it into partnership with the video games market leader Nintendo Co. The two signed a development and licensing agreement to create a generation of virtual reality video games systems that enable players to step inside real-time, three-dimensional worlds. Project Reality will use a version of the Multimedia Engine, a chip-set consisting of a 64-bit Mips Technologies Inc RISC microprocessor, graphics co-processor and application-specific parts. Nintendo will pay Silicon Graphics royalties for use of the technology. Silicon Graphics's Indy desktop computer provides an authoring system for current Nintendo developers wanting to create applications for Project Reality. The product will be in arcades in 1994 and be available for home use by late 1995 - with a target price of under \$250. Nintendo reckons the work with Silicon Graphics will enable it to skip a generation and go straight to true 64-bit, three-dimensional video entertainment. The SGI-Nintendo tie-up may soon be pepped up with technology input from Division Group Plc. The innovative UK, Bristol-based virtual reality specialist is close to signing a pact with Silicon Graphics in the US.

DRA SEES AT LEAST THREE TYPES OF ANDF INSTALLERS

The UK's Defence Research Agency says at least three types of installer mechanisms are likely to end up being used for its Architecture Neutral Distribution Format technology, ANDF (UX No 450). A large company like Hewlett-Packard Co doesn't need to buy in compiler technology - it has enough of its own. It, says DRA, would likely bridge its own compilers to work with ANDF, and extend those thereafter to work with its own code-generators. The research community, on the other hand, and standards organisations like NIST or IEEE, would be most likely, DRA thinks, to consider public domain technology, such as the Free Software Foundation's GCC compiler, which is being used in its GANDF project. Open Software Foundation, meanwhile, already has a royalty-free implementation based upon GCC up and running. Intermediate organisations and businesses are expected to buy commercial implementations from the likes of Unix System Labs. DRA and USL are trawling for interested independent software vendors: +1 908 522 6000.

INFORMIX READIES OBJECT-ORIENTED EXTENSIONS FOR 4GL++

Informix Software Inc will release a new version of its fourth generation language, 4GL++, with object-oriented extensions for Windows NT and Unix by the second quarter of 1994 (UX No 437). In the same time frame, the firm will also introduce a central enterprise-wide CASE repository based on Siemens Nixdorf Informationssysteme AG's Entity Relationship Model (UX No 409). According to Informix's manager of tools and programs, Tony Lacey Thompson, 4GL++ is a complete revamp of the former product. The software has a number of new features including a series of object-based visual class libraries that enable developers to build distributed applications graphically on screen. 4GL++ has a Windows and Motif front-end. The software also comes with a connectivity class library, which lets users embed Microsoft Corp ODBC client and server drivers in applications. This allows software to access data from third party relational databases and other tools, Lacey Thompson says. Other drivers can also be added to the library by third parties such as IBM's DRDA and Borland International's IDAPI technology. 4GL++ is backward compatible with Informix's existing software. The company's object-oriented repository is currently in beta test and will be available for both Unix and Windows NT environments, Informix says.

COMPUTER ASSOCIATES PREVIEW VISUAL OBJECT SYSTEM

Capitalising on its Nantucket Corp acquisition, Islandia, New York-based Computer Associates International Inc says it will ship the beta test release of its CA-Visual Objects from next month, which it claims to be the first fully object-oriented desktop development system designed for mission-critical business applications in distributed environments. It will go out to over 1,000 customers. The system offers "a unique mix of object-oriented and visual programming in addition to compiler technology that has been integrated into a repository-based development environment that can accommodate both object-oriented and traditional development." Visual Objects uses visual technology to design and develop commercial graphical interface client-server applications and is claimed to provide language technology that combines the performance of compiled code with the flexibility of object-orientation and high-level languages. It supports Xbase and SQL/Open Data Base Connectivity databases and third-party tools. It has an interactive, incremental, iterative style of development, the company says. Form, menu and report painters provide for code-less creation of graphical user interface applications. Each tool's code generator creates object-oriented source code. The object language is actually a set of extensions to the Xbase language and includes support for class and method definition, inheritance, encapsulation and polymorphism. All components are stored and interrelationships are maintained in an object-oriented repository, and the types of entities supported are fully extensible. No prices.

SQL ACCESS TO OBJECTIVITY DATABASE FROM DHARMA

Objectivity Inc and Dharma Systems Inc have announced a strategic licensing agreement to provide SQL access to the Objectivity/DB object database. Under license, Dharma will supply its SQL engine - the first time it has been used with an object database. Objectivity will combine Dharma's SQL engine with support for ODBC, Microsoft's Open Database Connectivity standard for database access, in a future database products. The idea is to create an environment in which objects and relational databases can co-exist. With the Dharma SQL technology, developers will use 4GL or 5GL tools with SQL and ODBC interfaces to access object databases instead of using C++. Dharma's SQL technology provides full ANSI SQL, which will permit standard SQL calls and commands to extract appropriate information from objects managed by an Objectivity/DB. Objectivity will provide object extensions and additional support for object-oriented applications involving methods and relationships associated with objects. Dharma is the only vendor developing and marketing fully functional SQL interface technology for non-relational databases.

OSF REJECTS CORBA COMPLIANCE FOR DISTRIBUTED MANAGEMENT ENVIRONMENT

The Open Software Foundation no longer intends to implement a full version of the Object Management Group's Common Object Request Broker Architecture in its Distributed Management Environment - because there is too much overlap between the two, it says. Instead, OSF will draw DME and the Distributed Computing Environment closer together and develop a new version of DCE - version 1.1 - and add a CORBA interface to DME. The decision followed several months of discussion with IBM Corp on how it should implement CORBA - and both decided it "doesn't make sense to have two ways of doing it". Initially, the problem was that no-one had actually implemented CORBA, so potential teething troubles had not been identified. OSF subsequently thought about buying an implemented version from a manufacturer, but rejected the idea, even though DME framework supplier Tivoli Systems Inc signalled its willingness to develop CORBA compatibility into its product at an early stage. OSF then started talking to IBM, and decided on the latest course of action. Despite the delays and its diminishing band of acolytes, OSF is still confident about DME's chances of success, and to make sure no-one forgets about it, has announced a pricing structure for the Distributed Services portion. All are due for release in the fourth quarter of this year except for the print management service, which is scheduled for the second quarter of 1994 (UX No 433). Pricing is based on the DCE model - customers will pay a single source code fee for the whole range of services "to encourage widespread adoption", but source code will be distributed in two forms. A full distribution licence starts at \$250,000 for three copies. This is aimed at users developing binary or object code-executable implementations for commercial shipment. A limited distribution licence starts at \$25,000 and gives customers the right to include Distributed Services in in-house development projects. A university site licence costs \$5,000 and an upgrade to a commercial site licence, \$90,000. Furthermore, object code for use on client machines will be packaged together and sold as one copy, costing \$25, although customers can also choose to pay annually for "high volume deployment". For 20,001 copies or more, this would be \$500,000. Object code for server technology will be sold individually, ranging from \$50 for a personal computer service to \$400 for a licence management service.

..CHANGES MEMBERSHIP PRICING...

Meanwhile, the Open Software Foundation is attempting to boost its numbers by introducing a new membership programme and pricing structure. Membership fees will now be based on the revenues or funding of the organisation seeking or renewing membership. Multi-year membership is another cheaper option. As part of the new package, OSF is also offering discounts on selected educational and consulting services as well as a pre-paid on-site training seminar. Prices range from \$5,000 per year for members with turnover of less than \$10m to \$25,000 for those with revenues of \$100m or more. For three year membership, organisations pay from \$13,250 to \$66,250 respectively.

...SETS NEW MOTIF PRICING SCHEME

And the Open Software Foundation has implemented a new volume-based annual pricing scheme for its Motif 1.2 graphical user interface to try and facilitate the product's adoption on low-end computers. As long as Motif runs under the same operating system each time, customers with a full distribution licence can now pay a fixed yearly fee of \$1,000,000 to either use or distribute an unlimited number of copies in binary form. The chosen operating system can be used on any type of hardware, however. The new pricing option is intended to help distributors justify high-volume business and simplifies current accounting and royalty reporting requirements.

MBL-COMPUTERLAND OPENS IN RIGA, LATVIA

MBL-ComputerLand has established an operation in Riga, Latvia. The operation, known as CompterLand Riga will sell products from IBM Corp, Compaq Computer Corp, Hewlett-Packard Co, Novell Inc and Microsoft Corp among others. The CompterLand franchise holder currently has 14 shops across the Commonwealth of Independent States and Baltic States and employs 500 staff in total. Victor Goradnicky, director of MBL-ComupterLand Moscow said he expected medium sized sites to turn over \$3m to \$4m a year. The firm sells in roubles for large orders, using the cash for investment. MBL-ComputerLand has also formed a Unix team to increase penetration of the telecommunications and banking sectors and says attracting attention to brand names is a priority.

DEC HIT BY CoCOM RESTRICTIONS ON SHIPMENT OF ALPHA MACHINES

Digital Equipment Corp is facing a six- to seven-month delay shipping products based around the 200MHz Alpha processor to customers in most of Eastern Europe due to CoCom restrictions, Alex Mittag-Lankheym, sales and marketing manager of the firm's Czech subsidiary says. Units based around the 150MHz processor fall into a separate CoCom category where licensing applications are taking between one and two months to process. Mr Mittag-Lenkheym reported that DEC was lobbying for change to CoCom regulations both locally and in the US, and echoed calls made by the managing director of ICL Plc's Czech subsidiary, David Beesley, for the firms to receive licences, rather than end-users, with some form of industry self-policing - at least in regard to the lower-end restricted products. Mittag-Lenkheym said that DEC has so far received orders for 50 machines, but noted that two-thirds of these were currently still awaiting export licences. He argued that the restrictions often amounted to a financial loss incurred by western European governments, as many public sector computer projects are being sponsored by grants from the European Community PHARE programme. Mittag-Lenkheym also added to recent criticism of current government procurement practices, warning that suppliers should not be "teased" by the publication of tenders for projects that turn out to have no funding, and argues that he would like the application of the Austrian model for public sector computer procurement to be applied locally. DEC last year posted revenues of \$37m in the Czech and Slovak Republics combined, making it DEC's fastest-growing subsidiary according to local executives. This compares with \$30m in Hungary and an estimated \$6m in Poland. About half of Czech and Slovak business comprised direct sales to public sector accounts, according to Mittag-Lenkheym. Customers include the President's Office, the Slovak Health Insurance Company, the Czech coupon privatisation administration, PVT, and accounts in the defence sector.

FAIR EXCHANGE: BONIEK AND WARZYCHA FOR A HANDFUL OF ICL MAINFRAMES

ICL Plc certainly can't be accused of leaving stones unturned in its bid to win business in the east. ICL Poland general manager Jan Kluk reported that he had attempted to put together a contra deal some years back, which would have seen ICL exchange personal computers in return for Polish footballers - with an escrow account somewhere in the middle. Kluk said the plan came to nothing because a few people tightly controlled the footballer exporter market and it all got too political. He had better luck with black and white television sets and copper from steam trains. Today, ICL Poland is settling for payment in zlotys.

HUMMINGBIRD LEADING PC X SERVER MARKET, SAYS X BUSINESS GROUP

The X Business Group Inc reports that Canada's Hummingbird Communications Ltd, Markham, Ontario, accounted for 35% or 42,350, of all 119,941 PC X server licences sold during the first half of this year - and 29%, \$6.75m, of the \$23.4m revenues generated in that market. Second and third were UK firm VisionWare Ltd, Leeds, which took 14% (17,350) of licences and 15% (\$3.6m) of revenue, and Network Computing Devices Inc, Mountain View, California, with 12%, 14,302, and 13%, \$2,940,000, respectively. Thereafter followed AGE Logic Inc with 10% of licences and 9% of revenues, DEC at 9% and 7%, Apple Computer Inc on 6% and 5%, White Pine Software Inc with 4% and 4%, GrafPoint Inc at 3% and 3% and others with 12% and 11%. Windows implementations made up the majority of all PC X servers shipped - 88,584. There were 19,907 MS-DOS versions sold, 9,500 Apple Mac copies (split between Apple and White Pine) and 1,950 for NeXT Computer Inc systems. The X Business Group expects Hummingbird's pre-eminent position to be challenged over the rest of this year by NCD's PC-Xware and VisionWare's XVision5.

AMDAHL REORGANISES - OPEN SYSTEMS DIVISION RUDDERLESS FOR THE MOMENT

Amdahl Corp has effected a major rearrangement of the furniture in its reorganisation of operations into profit centres dedicated to individual lines of business. David Anderson becomes general manager in charge of IBM-compatible processors and Erika Williams general manager of the company's data storage products. A general manager for open systems products will be appointed at a later date. The fourth product line, the Huron applications development and production system, had already been placed under John Cavalier in June with the formation of the Antares Alliance Group with Electronic Data Systems Corp as 20% minority partner. Ollie Nutt and David Wright will jointly manage the newly created Office of Field Operations, which includes Amdahl's direct sales force and the customer services line of business, Nutt in North America and Wright overseas. A new staff position, software business development, is to be headed by William O'Connell, Amdahl said.

HEWLETT-PACKARD TO ACQUIRE EESOF

Still infilling, Hewlett-Packard Co is to acquire EESof Inc, Westlake Village developer of computer-aided engineering software - simulation and analysis tools - for design of high frequency systems, circuits and devices, on undisclosed terms. The acquisition is subject to government approval. On completion, Charles Abronson, president and co-founder of EESof, will leave to pursue other interests but he will continue for a spell as consultant to Hewlett-Packard.

WANG CLAIMS MICROSOFT AND WATERMARK VIOLATED OBJECT MANAGER PATENTS

Wang Laboratories Inc has launched a patent infringement suit against Microsoft Corp and Watermark Software Inc of Burlington, Massachusetts, alleging that they violated two Wang patents awarded in the past year. It was not clear what the Microsoft or Watermark products are alleged to infringe, but one patent describes object managers that operate on stored data and the other a composite personal computer-based document scanner and processor. Microsoft is still studying Wang's charges and was not ready to make any comment. The titles of the patents are "Integration of Data Between Typed Objects by Mutual, Direct Invocation Between Object Managers Corresponding to Object Types," and "Composite Document Accessing and Processing Terminal with Graphic and Text Data Buffers." The first makes it sound as if Microsoft's Object Linking and Embedding is at issue.

PHASE X BIDS FOR PLACE AT X TERM TABLE WITH NEW SAMSUNG BUILT MIPS SCREENS

Next month at Unix Expo, Phase X Systems Inc, the Beaverton, Oregon X terminals people, will announce a new generation of top-of-the-line Samsung Electronics-made, high-performance X terminals, dubbed the CE and ME series, based on a 33MHz Mips Technologies Inc chip and including new X11R5 X server software called Xcellent from Samsung and Samsung's new line of high-resolution monitors. Phase X intends to be one of the top three X terminals vendors. It has had a strategic partnership with Samsung since last year. Its new flagship models are the \$1,695 high-resolution 19-inch monochrome model PX19ME, a \$2,495 17-inch colour model PX17CE1, a \$3,395 19-inch colour model PX19CE2 and a \$3,495 20-inch colour model PX20CE2. All 19- and 20-inch units have a 1280 x 1024 monitor. The 17-inch colour models offer 1024 x 768 resolution. All refresh at 72Hz. Software is bundled. Phase X claims performance of over 120,000 Xstones for its 19-inch monochrome 19ME and over 100,000 Xstones on all the others. Phase X said the new units provide twice the performance of its older models for about the same price. They include 4Mb of memory, expandable to 52Mb and support up to 2Mb of Flash memory ROM to provide a pre-loaded plug and play system. The Xcellent software supports SunOS, Solaris, VMS, Ultrix, AIX, HP/UX, DG/UX and systems such as Sequent's. Supported GUI standards include Motif, Open Look, SCO Open Desktop and DECwindows. Volume shipments of the CE and ME models are scheduled for October. The company will continue marketing its previous AMD 29000-based X terminals, the PX19M, PX17CA1 and PX19CA2, at reduced prices. The company also plans to unveil an enterprise-wide X Windows architecture called the Total Enterprise X Architecture Strategy that includes a Samsung HP-PA RISC workstation clone, X for PC-DOS, Windows and NT and X for Macintosh, office automation applications and software integration and consulting services.

SAP BROADENS R/3 BASE

In a bid to become more "open", software house, SAP AG, says it wants its Unix-based financial and accounting software, R/3, to run in as many environments as possible - and not just under the various flavours of Unix. According to *Computerwoche*, the newly released version 2.0 doesn't just support Unix derivatives, but also MPE/ix - Hewlett-Packard Co's Posix-compliant version of its proprietary operating system, MPE; and Digital Equipment Corp's OpenVMS. On the Unix side, the Walldorf, Germany-based firm intends to support the current implementation of DEC's OSF/1. In addition, it is working on R/3 versions for Sun Microsystems Inc's Solaris and Microsoft Corp's Windows NT. SAP AG has also broadened the range of databases that the software supports to include Oracle Corp's Oracle 7.0, Informix Corp's Online 6.0 (UX No 434) and Software AG's Entire SQL product. And R/3 will soon run on DEC's Alpha AXP architecture. Release 2.1 of the product is scheduled for the end of this year.

SUN HAS NEW SUNNET MANAGER WITH SNMP 2

Sun Microsystems Inc's SunConnect unit wheeled out version 2.2 of its SunNet Manager network management environment at the InterOp show in San Francisco last week. Version 2.2 implements parts of the new Simple Network Management Protocol release 2. SunNet Manager first debuted in 1990 and runs under Solaris. Version 2.2 comes with SNMP 2 bulk data transfer and security features and quick-start installation and configuration. SunConnect plans support for the Desktop Management Taskforce's Data Management Interchange specification and a release for Solaris x86, the Intel Corp port of Sun's operating system. SunConnect claims 57 applications up under its environment, which is squaring up to Hewlett-Packard Co's OpenView (also available in a Windows version) and IBM Corp's OpenView-based NetView/6000 network management environments - see page two.

END OF PIEPER'S REIGN LOOMS

As we went to press, Novell Inc was reportedly putting together a press release stating the obvious: the departure of Unix System Labs president Roel Pieper, effective Tuesday August 31, just as we predicted. Pieper hasn't been in the office since before the first of the month and has spent his time entertaining a gratifying number of job offers. He's now down to a short list of five and intends to pick one of them by Friday September 3 so he can relax and enjoy the Labor Day weekend. He says it's very hard making a choice. He can't find anything wrong with any of them and he's tried - even got his wife in on the act. They all involve the melding of telecommunications, computers, wireless, PDAs and that sort of thing. We'll let you know what he decides.

FLAT VOLUME GROWTH IN EUROPEAN UNIX HARDWARE SALES, SAYS IDC

IDC says sales of Unix workstations in Europe in the first six months of the year rose by 16% in volume and 10% in value over the same period last year. Although volume growth is pegged at the same level as last year, IDC says the value of the market appears to have picked up some growth, with strong sales reported by Sun Microsystems Inc and Hewlett-Packard Co. IDC expects Sun to increase its share over the rest of the year whilst HP's growth will slow. In the midrange market, sales were up by 10% in units and 7% in value in the first half of the year compared to the same period in 1992. US vendors contributed most to the overall growth experienced - as a group, European vendors showed a sharp decline in shipments.

SANYO TARGETS NEW HIGHLY PARALLEL DESKTOP AT GRAPHICS MARKET

Sanyo Electric Co Ltd has a highly parallel desktop computer, Cyberflow/64, in the pipeline, which it intends to target at users of three dimensional image processing and visualisation applications. According to *Computerwoche*, Cyberflow/64 must be used with a separate front-end machine, such as a Unix workstation or personal computer, and as a result, has SBus, fast SBus, VME bus, SCSI and fast SCSI interfaces. It also incorporates 64 "processor elements". Each have 4Mb of local memory and a self-routing mechanism built in, which enable inter-processor data transfer rates of up to 256Gbits per second. Future models will incorporate up to 1,024 processors, and should theoretically provide speeds of up to 1,024Gbits per second. Each "processing element" sits on a credit card-sized circuit board and comprises a chip designed by Sanyo that incorporates a floating-point unit, vector operation unit and communications unit. Every processing element also communicates separately with the others to ensure it finds the best possible means of connection. Some 16 of these processing elements are integrated onto a single processor board, of which there are four in the machine. Sanyo has also developed various programming tools, such as a parallel compiler, linker, assembler, debugger and software simulator as well as mathematics, graphics, image processing and data communication libraries. Programming is carried out in C or assembler. Cyberflow/64 is targeted at such markets as computer-aided design, virtual reality, scientific simulation and animation. No prices and release dates have been decided.

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Intel Corp's supercomputer division is to reap the benefits of Wilsonville, Oregon-based **Portland Group Inc's** technology collaboration with **Syracuse University** on high performance Fortran compiler research - Portland and Intel are extending their current agreement on Fortran 77 and C technologies to encompass the development of high performance Fortran, Fortran 90 and C++ compilers for Intel's 80860 RISC-based Paragon XP/S supercomputers over the next five years. Intel says the first compilers will ship in 1994.

UniForum has lined up 30 technical sessions for its COSE Common Desktop Environment developers conference between October 26 and 28 at the San Jose convention centre in California. IDC's David Smith and Charles Schwab & Co's Jim White are to give the keynote speeches, while Hewlett-Packard Co's Gary Eichorn, IBM Corp's Bill Filip, SunSoft Inc's Ed Zander, Santa Cruz Operation Inc's Scott McGregor and Don McGovern of Novell Inc's Unix System Labs will host an executive overview - "What is the Common Open Software Environment?" Registration before October 1 costs \$800 - +1 800 225 4698.

Dundas, Ontario-based **Beame & Whiteside Software Ltd's** TCP/IP and NFS client software for MS-DOS and Windows now comes with an e-mail handler that supports Unix mail exchanges from Windows. It also has a Windows Sockets interface, NFS support for long names, CD-ROM support and SL/IP connectivity. BW-NFS 3.0C costs \$350 and includes BW-TCP 3.0C. +1 416 765 0882

Bridgefiled, Connecticut-based **Bristol Technology Inc** is now shipping version 1.3 of its Wind/U Windows-to-Unix portability kit, which enables Windows and Visual C++ applications to run as native Motif applications. Version 1.3 is up on IBM, Sun, HP and Unix SVR4-based Intel systems. Prices start at \$10,000. +1 203 438 6969. Wind/U is available from Maidenhead, Berkshire-based Protek in the UK. +44 628 75959.

Correction: **JMA Information Engineering Ltd** is of course based in Ashford, Middlesex, not Ashford in Kent (UX No 448).

MaxTech Computer Technologies Inc, Marietta, Georgia, will next week introduce Double Vision remote control software, which allows one user to control another user's terminal - both screens look identical and both keyboards may be used interchangeably. Prices start at \$400 for UnixWare and NCR Intel-based systems. +1 404 587 9152.

Hewlett-Packard Co says it is currently testing 11 applications for integration with its OpenView network management system - it plans to certify 25 for use with the suite by the end of the year.

IBM Corp believes it will be able to unhorse **Digital Equipment Corp** as the industry leader in RISC-based performance come Tuesday, September 21, when it trots out new Rios 2-based RS/6000 machines that reportedly outstrip Digital's 200MHz Alpha.

For some reason, our computer decided to gobble up part of a little item we ran last week - what we meant to say was a professor up at the Harvard Business School is writing a book about alliances in high technology and is apparently going to give a lot of space to the various RISC consortia and unholy alliances. We can't wait to be interviewed.

Computer Reseller News says **IBM Corp** has a new implementation of AIX - 3.2.5 - specifically designed for PowerPC machines. It ships in October.

Fujitsu Networks Industry has developed what it calls Education Community Center (ECC) software - Unix-based on-line groupware designed to enable departments, divisions and workgroups at colleges and universities to share information and communicate with each other. The first installation is at the University of Connecticut.

ProActive Software has opened a new sales and support office in Boston to handle the territory from Maryland through eastern Canada including Montreal, Quebec and Ontario. The start-up has sites in Atlanta and Chicago besides its headquarters in Mountain View, California.

US distributor **Access Graphics**, which does loads of business for Sun Microsystems Inc and has also picked up Intergraph, has opened a new sales office in Montreal to add to its presence in Toronto and Vancouver.

The Australian Unix and Open Systems Users Group (AUUG) has been working on their conference and exhibition for quite some time now and it looks like the programme is really shaping up. The festivities, set for September 27-30 at the Sydney Convention & Exhibition Centre in Darling Harbour, is attracting a bunch of our jet-setting colleagues including X/Open's Geoff Morris, the Open Software Foundation's Dave Tory, Unix papa Ken Thompson, Silicon Graphics' John Mashey and Berkeley Software Design's Rob Kolstad. Local Roger Hicks of the University of Auckland will preside over a session entitled, "The Unix Wars over...Let the Posix War Begin", and the COSE people are supposed to host a panel to bring everyone up-to-date.

Bombay-based Delsys Systems Integration and Software, a year-old division of **Daruvala Electronics Pvt Ltd**, is attempting to undertake competitively priced complex engineering, systems design, software development and even maintenance, database building and transaction processing. daruvala@shakti.ncst.ernet.in

IBM Corp intends to give software developers free access to one of its new Scalable PowerParallel Systems SP1 computers so they can develop applications for the thing. Big Blue will install an IBM 9076 SP1 at its AIX support center in San Jose by the end of the year. IBM is actively looking for software partners at the moment.

Sequent Computer Systems Inc's new Pentium-based Symmetry servers will be available from September 1.

Ben Salama, who was president and chief executive of Interactive Systems Corp before its acquisition by **SHL-Systemhouse**, is returning to London to take over the company's Integration Group in the UK. Most recently, he's been acting as the firm's vice president of systems integration, running its operation in Chicago.

BusinessWeek is crediting Hewlett-Packard Co workstation chief Gary Eichorn with personally bringing off the "reunification" of Unix expected to be cemented this week.

Tower Technology Corporation, Austin, Texas, will have its TowerEiffel programming environment on Solaris 1 and 2-based systems by September. Its implementation is claimed to provide fast application execution, a tight C interface, smart recompilation and support for team development projects, distributed applications and commercial library development.

It all happened so fast we didn't even notice it, but no sooner was ex-SunSoft Inc executive Bill Larson named general manager of Sun Solutions, the Show Me planet, back in June than he was out the door. In fact, it couldn't even really be said that he took the post. And there's still nobody minding the store what with director Bryon Ryono moving on to the mysterious Sun subsidiary, First Person.

Personal computer-to-host communications software specialist **Wall Data Inc**, Redmond, Washington, has endorsed **Novell Inc's** AppWare Network Application Development Strategy (UX 443) by declaring its intention to include an object-oriented Application Loadable Module in its Rumba Tools for AppWare product - due for release later this year. Rumba, in conjunction with AppWare, will enable developers to build graphical and distributed network applications that run in heterogeneous environments.

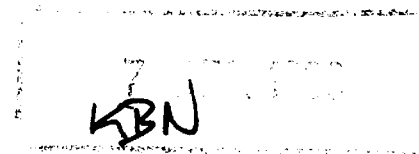
IMI Plc's Unix office automation software subsidiary, **Uniplex Ltd**, has ported its onGo Write/Paint/Draw object-oriented WYSIWYG document processor to Sun Microsystems Inc Sparc, Hewlett-Packard Co HP9000 and Santa Cruz Operation Inc Open-Desktop environments. The product costs £425.

New York-based software vendor, **Information Builders Inc**, has launched a new version of its Enterprise Data Access/SQL client-server software for **Tandem Computer Inc's** NonStop fault tolerant servers. EDA/SQL is essentially middleware that enables users to access a range of different databases transparently. The client version is available now and the server version should be released in the fourth quarter of this year.

The Ask Group Inc has promoted Eric Carlson to executive vice president of corporate strategies and new ventures. IBM veteran, Amal Johnson, will succeed Carlson as president of the manufacturing systems product unit.

Apparently the ceremonial burying of a hatchet by the "unified Unix" firms at this week's New York event was called off when they couldn't agree on what kind of hatchet they were going to bury.

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"END IS NIGH" FOR SEPARATE UNIX BODIES

Now that it's on this "unity" roll - see page three - the industry needs to sort out what to do with those tired old war horses, Unix International and the Open Software Foundation. One source intimate with the goings-on claims they'll both be put out to pasture (but apparently not destroyed and sent to the meat-packing plant) before the end of the year, replaced by a new little filly everyone can ride (UX No 447). The problem with UI and OSF, he says, is that "IBM Corp and Hewlett-Packard Co won't join UI and the Unix SVR4 people won't join OSF" yet they need a common umbrella to meet under. One of the remaining hurdles is what to call it - and who'll head it up. We're not sure whether he was kidding or not but he said the notion of calling it "Open Software International" had been rejected. A more serious note is the issue of Unix branding. Reportedly there is pressure being exerted on Novell Inc to invest this new organisation with the Unix branding task as a way of keeping Novell honest and giving its OEMs a warm and cuddily feeling about Unix no matter what path Novell decides to take (UX No 450). That fact alone might explain why no proper name was attached to last week's unity fest and its product. Sources report there was a concerted effort to avoid the "U" word, dooming such contenders as Unified Unix, Universal Unix and - our personal favourite - Unix 32, a clear alternative to Microsoft's Win 32, to the waste bin. In a separately distributed support statement, Unisys Corp referred to it simply as the OS/API. Maybe that'll stick.

NOW JUSTICE DEPARTMENT TO INVESTIGATE MICROSOFT'S ATTEMPTS TO BUY NOVELL

As we went to press, Wendy Goldman-Rolm, the US reporter who has been following the Federal Trade Commission (and subsequent US Justice Department) investigation into Microsoft Corp's trade practices, was about to break a story saying that the Justice Department is going to investigate Microsoft's apparently multiple attempts to buy Novell - the latest of which was only 18 months ago. According to Novell vice president and legal counsel David Bradford, Microsoft first started trying to buy out its networking arch rival as early as late 1989. At that time, discussions went as far as a few face-to-face meetings between Microsoft's Bill Gates and Novell boss Ray Noorda and some subsequent discussions about logistics between their underlings. After a protracted wait for an answer on the deal from Microsoft, Novell was apparently told in early 1990 that "Bill doesn't want to have to roam the halls of Provo to find out what's going on with his latest network operating systems products". Nothing more was said about the idea until July 1991 - just days after the announcement of Novell's plans to buy Digital Research - when an apparently apologetic Bill Gates called Ray Noorda to ask if they could talk about the acquisition again. Noorda reportedly told Gates at that point that he (Noorda) was worried about the view US government regulators would take on the deal (Microsoft was already under investigation by the FTC at this point) and about the impact the deal would have on Novell's increasingly close relationship with IBM. The reason that the US Justice Department might regard Microsoft's attempts to buy Novell in a less than flattering light has to do with certain sections of US anti-trust law, which bar "attempted monopolisation" under certain conditions. If Microsoft's actions met those conditions, the US Justice Department could use them to bolster its case against the company. Gates reportedly told Noorda that he (Gates) would "handle the government" and that IBM was not to be worried about. Noorda was apparently hesitant and told Gates that nothing could happen until after the Digital Research deal had been finalised. When that finally happened in November 1991, Microsoft sent a bevy of lawyers down to Provo to explain why the deal would not become a problem with the FTC and - in February 1992 - followed up the discussions with a written offer of acquisition for Novell (the details of which Novell's Bradford did not disclose). Microsoft apparently met with Novell's board to discuss the offer on March 19, 1992 - and on March 20, 1992 Microsoft announced its acquisition of Fox Software, something that apparently came as a total surprise to Novell. Bradford says Novell was shocked by this news and discussions broke off completely and finally after that. Bradford also says that this history should be looked at in the context of Gates' recent suggestions that if any company should be investigated for monopolistic practices in the PC industry, it should be Novell. Bradford suggests that if Novell was so monopolistic - and Gates believes they should be investigated - then why was Gates so keen to buy this monopoly only last year?

ICL TO UNLEASH A GOLDRUSH

US sources say ICL Plc will shortly detail its ambitious parallel server system - codenamed Goldrush - which it is pitching as a relational database engine for commercial transaction processing (UX No 411). Due in 1994, the system can scale up to 256 superscalar Sparc RISC chips and runs Chorus Systemes SA's Unix SVR4 microkernel. Goldrush - it'll debut under another name - productises work that has been going on since 1989 under the auspices of a European Community Esprit II project, the European Declarative System, EDS. Bull, Siemens Nixdorf, ICL and others were backed by EC cash. EDS will spawn four projects and under EC rules, each member can take the results and implement them commercially. ICL is optimising the server to run corporate relational databases at the high-end of the commercial market where it will hook into host systems, Unix or proprietary. Goldrush uses up to 128 pairs of superscalar Sparcs - possibly Cypress Semiconductor's HyperSparc, now owned by ICL parent, Fujitsu Ltd - one CPU for the application, the other to drive the network, each with up to 64Mb memory. Key to the architecture is Delta, an SNI-developed, 25Mb per second high-speed interconnect bus which allows database queries to be spread over multiple CPUs and file systems. The Oracle database has been optimised for the server, which will cope with SQL queries from a variety of sources including ICL OpenVME and DRS6000 boxes via a distributed European SQL interface (ESQL) - an SQL extension developed under EDS which exploits parallelised databases. Until now, ICL says, commercial users have had to re-engineer applications to take advantage of parallel architectures, and have proved unwilling to do so. "The moment database vendors come out with versions that do it automatically, the rules change," it says. Software optimised to run on the system includes a database request manager and data manager - the request manager translates ESQL queries for parallel execution.

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IBM's CLEAN 80486 MICROCODE "ONLY FOR POWERPC"

It appears that the "clean room" version of Intel Corp 80486 and Pentium microcode being developed by IBM Corp is specifically for use in future versions of the PowerPC RISC microprocessor, and is in furtherance of that shadowy project to offer a version of the PowerPC that would plug into Intel upgrade sockets (UX No 443). The idea, according to *US PC Week* magazine, is to come up with a firmware 80486 emulation that will knock the socks off any software emulation for Windows and other iAPX-86 applications (UX No 451). IBM plans to deliver a PowerPC chip containing the microcode-level emulation within two years, sources told the paper - we learned from IBM that it has been working on the stuff for some time. Microcode allows the 80486 to communicate with MS-DOS and Windows software. The thinking behind the move is that there is not an awful lot more that Intel can do to boost performance within the constraints of iAPX-86 architecture - indeed it has said that the P7 part, the next but one in the progression, will depart from the present architecture (UX No 420), so that IBM's plan would simply mean it was taking that step ahead of Intel. Moreover, since the IBM plan apparently does not include creating straight "clean" clones of any Intel microprocessors, while Intel will not like the development very much, it is not likely to reach for its lawyers over it, or to tear up the complex agreements under which it licenses IBM to create its own versions of Intel microprocessor designs and to sell them as board- but not chip-level products, as well as using them in its own personal computers.

X/OPEN TAKES COORDINATING ROLE IN COSE SYSTEMS MANAGEMENT EFFORT

X/Open does appear to be playing a central role as coordinator for the COSE systems management initiative (UX No 449), although X/Open technical director Mike Lambert says that it is at a much earlier stage than either the COSE desktop initiative or the newly announced Common Unix OS API. There is less unanimity on what is needed, he said. A number of other standards organisations are working on different aspects of the problem said Lambert: the Posix committee looking at it from a single system point of view; the Network Management Forum from the communications angle; and the Object Management Group taking an object-oriented approach. X/Open says its job is to marry the concepts of systems management and network management, focus strongly on CORBA-compliance and try to make sure that work is not duplicated. An object-oriented approach is the only feasible way of achieving distributed systems management, he said. Lambert wouldn't be drawn on the rumoured demise of the OSF's Distributed Management Environment effort, but said that whether or not the DME work was ever released as a commercial product, the technical progress that had come out of DME would have a major influence on whatever does emerge.

MICROMUSE INTO US, PLANS EUROPEAN UNIT - READIES COMPLEXITY MANAGEMENT SOFTWARE

London-based Sun Microsystems Inc reseller, Micromuse Ltd, will be showing-off its complexity management software as part of a US and European expansion due to be announced at the Unix Expo show in New York in a couple of weeks' time. The software, called NetCool One, has been in development since at least March (UX No 427), and is touted by the firm as the first product of a family to be marketed by Micromuse's US subsidiary, Acronym Ltd, which will introduce itself at the show. NetCool One is a static configuration and asset management system, with a management console which runs on Solaris, AIX and possibly HP-UX. It will monitor network licence usage and alert the console should the machine's hardware configuration change. The system, to ship in six months, will work with most flavours of Unix along with Windows 3.1 and Macintosh at agent level. Eventually, it will be able to run on network-specific hardware, ultimately finding its way into office equipment, according to Micromuse. Six to nine months after release, Acronym will follow up with NetCool Two, which will be able to define the situation in which specific problems occur on machines and take automatic action to rectify it. Both systems will run on top of the firm's distributed messaging system, designed to minimise interference due to network traffic. The products will be sold in the US, the UK and Europe. The US venture will attack previously unexplored territory for Micromuse. With two start-up staff, the company hopes to turnover \$300,000 in the first year, \$500,000 in the next. In Europe, Micromuse is planning a new European subsidiary in Brussels or Switzerland. The NetCool family is part of Micromuse's master plan to achieve distributed and optimised object oriented processing. Shortly to announce its year-end results, the privately-held company says turnover was up at around £7m, from £3.2m last time around. Managing director Chris Dawes indicated a possible floatation within two years.

API UNIFICATION SHOULD RATIONALISE UNIX SOFTWARE EFFORTS, SAYS X/OPEN

X/Open says it challenged the industry to come up with a common set of application programming interfaces (APIs) for Unix some 18 months ago (when rumours of the so called Unity II peace talks began - UX No 373), but that it took the new climate ushered in by the COSE desktop initiative in San Francisco last March (UX No 428) to really get things going. But as a result, the Common OS API specification is now complete, and it's the review process that will take up the time until the final version is made available in the second quarter of next year - see opposite page. X/Open's Mike Lambert calls the approach a unification, rather than the intersection approach of Posix and XPG/4, which focused on the APIs that were common between varying Unix implementations, resulting in a low functionality common base from which porting could begin. That approach is still valid, insists Lambert, if what is required is a set of generic services across a broad range of platforms, and will remain the basis for such systems as DEC's OpenVMS and (so we are assured) Microsoft's NT. The new unification, however, draws a lasso around all the commonly used APIs and includes the lot. Specifically, that means USL's SVID Edition 3 Level 1 base APIs, full use APIs from the OSF's AES Operating System Programming Interfaces (OSPI) and other widely used interfaces such as Berkeley 4.3 Reno Sockets and TCP/IP. Additionally, around 50 leading Unix applications were analysed to obtain API usage data. Lambert calculates that the total number of APIs included is 1,300, 650 of them from XPG4. He doesn't expect the review process will change much of the work already done, but it must be carried out for the specification to be properly legitimised. A distinctive brand, supplementary to XPG4, will be awarded to conformant systems and software.

Thin interface layer

Rather than make kernel level changes, the easiest way for hardware vendors to implement the new specification, says Lambert, will be to put in place a thin interface layer between the operating system and applications interface, an approach that DEC has already taken with its Habitat system, see page five (UX No 423,437). There's no suggestion that UnixWare, AIX, HP/UX, Solaris and the rest will go away - on the contrary, these will continue to be developed and no doubt fitted out with "added value" features not included within the spec just as before. But unlike Posix, the new specification is broad enough to embrace fully functional applications, many of which will run from day one. It should save ISVs considerable sums on developing and supporting multiple proprietary APIs, and cut porting time down from weeks to days. Ideally, this could result in lower software prices. Although there is obviously a danger of a gradual re-fragmentation as more added value is put in place, Lambert says it will not be in anybody's interest to stray too far. "We have no obligation to track any single vendor. This specification is arrived at by industry consensus. Make no mistake - this will be the future tool for procuring all Unix systems".

SunSoft Inc's Solaris 2.x is "95% compliant" with the combined Unix API says SunSoft, and "will be 100% compliant by the release we're planning in October 1994," according the firm's Dave Richards. Current applications will be carried over. Meanwhile, 90% of its work on moving to Solaris 2 has now been completed, and will be finished by Christmas, he said.

X/Open's Mike Lambert says that he has been inundated with telephone calls from companies keen to endorse the new common API, and that just about everyone in the industry aside from Microsoft wants to be involved. There is no technical reason why Microsoft couldn't endorse the new initiative and get NT to conform to it - except that it would be a huge amount of work and many years before anything real could be put in place.

Software developers interested in the COSE desktop initiative are being encouraged to travel to San Jose for the Common Desktop Environment Developers' Conference between October 26-28th. But there are also plans for a European developers conference to be held in Frankfurt, also in October. We'll give you more details when we get them.

Microsoft Corp is apparently telling customers that its forthcoming Excel 5 and Word 6 applications will have been written to conform to the Windows Win32 spec, and thus won't run on the 16-bit Windows 3.1 spec as used by SunSoft Inc's Wabi Windows emulation. But SunSoft points out that all it needs to do is upgrade Wabi to take account of the Win32 calls, and that current Microsoft users will have to go through the exact same process to take advantage of the new applications themselves.

THREE POWERPC QUADRA_s EXPECTED, DEVELOPMENT VERSIONS IN OCTOBER - MAC EMULATION STILL PROBLEMATIC

Apple Computer Inc will deliver early versions of its PowerPC Macintosh systems to developers during October, according to a report in *US PC Week*. The three new PowerPC Quadra systems are due to be announced next March, the paper says. The low-end model, codenamed PDM, will run a 50MHz PowerPC 601 CPU, come with 8Mb and a 160Mb drive housed in a Centris 610-type chassis with a street price of around \$2,000. A 66MHz version, code-named Carl Sagan (after the US popularist scientist and sci-fi writer) and based on the Centris 650 design, will come with 8Mb RAM, three NuBus slots and 230Mb drive for \$3,000. Options will include a 500Mb drive and CD-ROM. A high-end 66MHz PowerPC Mac codenamed Cold Fusion will come with 8Mb and 230Mb disk \$4,000, with options for 8Mb more RAM, 500Mb or 1Gb disks and CD-ROM. The US trade weekly claims Apple isn't meeting its goal of having Mac software running in emulation under the PowerOpen operating system at the same speed as a 25MHz Motorola Inc 68040. Software in emulation on the PDM is no faster than on an LC III with a 25MHz 68030 - Carl Sagan and Cold Fusion are short of the Quadra 800 benchmark, it says. PDM may debut as the Macintosh Quadra 6000 or Quadra 6100, the paper adds.

IBM's OBJECT WORKFLOW SYSTEM DUE IN OCTOBER

IBM Corp is readying a new object-oriented work flow management system for release in October built upon Object Design Inc's ObjectStore database. Developers should be able to integrate third-party products into it, alongside the home-grown IBM development environment and applications it'll come with. Tools for designing applications and the workflow engine itself will also feature in the system along with components to define how workflow applications will pass data amongst users as it is generated. IBM, which invested some \$27m in Object Design a few months ago to cement the arrangement (UX No 434), is likely to put the system up on OS/2 initially, with AIX and mainframe versions to follow. IBM already has a Workflow Manager system for OS/2 2.0 and Image Plus and Enterprise Management workflow packages. The news follows the formation of the IBM-lead Work Flow Management Coalition and relationships the company has established with workflow houses - UES Inc's Dayton, Ohio-based Knowledge Information Center and UK firm StaffWare Ltd. Other IBM object software projects featuring extensive use of ObjectStore are also underway. Meanwhile, Object Design is working closely with IBM to develop gateways from its object database to conventional relational databases like DB Connect, for DB2.

SYBASE GAINS MOMENTUM APPLICATION DEVELOPMENT SUITE FOR UNIX, WINDOWS, NT

As expected (UX No 446), Sybase Inc last week unveiled Momentum, its new family of enterprise wide application development tools for Microsoft Windows, Windows NT and Unix. The toolset consists of three products: BuildMomentum, a graphical object-oriented application development tool; EnterpriseMomentum, an object-oriented repository and application modelling framework; and GainMomentum 2.0, the firm's existing multimedia toolset from its Gain Technology subsidiary. BuildMomentum is a 32-bit GUI-based application development tool for Windows, Windows NT, Macintosh and Motif platforms. The product, which Sybase claims has nothing to do with Gain Technology's object software, is based on a new object-oriented programming language, called ObjectMomentum. According to Sybase, the language has a Microsoft Visual Basic-like syntax, which will make it easier for developers to build applications visually on screen. The software also supports Sybase's existing range of character-based programming tools, APT WorkBench and APT SQL. Applications built in APT WorkBench can be translated in to BuildMomentum automatically whilst working within the environment, says Phil Robinson, Sybase's Northern European product manager. BuildMomentum is scheduled to go into beta on Windows and NT in the fourth quarter and shipments will begin in the first quarter of 1994. Motif and Macintosh versions will follow, says Robinson. EnterpriseMomentum is Sybase's repository-based development environment. According to Robinson, it consists of three product components: Enterprise Modeler, an integrated set of object-based modelers that graphically define application business rules, data structures and graphical user interface types; Enterprise Meta Server, a central repository which stores models, designs, data and third party tools; and Enterprise Application Builders, which automatically generate client and server application code. EnterpriseMomentum supports Motif, Macintosh, Windows and Windows NT platforms. Sybase expects to deliver EnterpriseMomentum in the second half of 1994.

VENDORS AGREE COMMON SET OF 1,170 APIs

More than 75 different companies banded together last Wednesday in New York to show their support for the Unix industry's new common application programming interface specification. While "the suits in the billion dollar row" - roughly translated as the COSE people - took a back seat, factotums from the Open Software Foundation, Unix International, X/Open, Computer Associates, DHL Worldwide Express and a sole analyst in the form of Marc Shulman, president of the Technology Strategies Group, addressed a rather sparse audience - several of which had to be dragged back from holiday. There seemed to be some agreement on exactly how many APIs would be included in the specification, with people coming up with a different number each time. However, on the final count, it came to 1,170. Everyone agreed that 90% of all vendors' platforms would be supported though. The specification was described as an extension to X/Open's XPG4 - and X/Open's APIs will apparently compromise about 50% of the finished item. The other APIs are based upon SVID and OSF's Application Environment Specification, as well as 10 different ISV application sets, including Informix, AutoDesk and WordPerfect. The applications were chosen on the basis of market share and the aim was to cover all technology areas, from graphics to databases. The initial draft specification is available from OSF and UI, both of which will head-up the industry review. The draft will go to X/Open in November, and the approval process is expected to take from then till sometime in 1994/5. Branding will take place within the next 12 months - see front page.

Timing is the crucial issue with this new common OS/API. However it'll be at least the middle of next year before anything real starts to materialise in the way of the first compliant operating systems. By then, Microsoft Corp's Windows NT should be on its second iteration.

Apparently there are moves afoot radical enough to want to distill the new common Unix application programming interface down as far as putting it all in one place: namely, between the covers of a single book. By contrast, individual vendors have never codified what it takes to optimise for their code. Seemingly a "no brainer," the issue is apparently still under discussion.

When asked how Microsoft Corp might play last week's unity moves, Novell Inc's Unix Systems Group chief Kanwal Rekhi said it's likely to call it "an eleventh hour death bed conversion." Novell, by the way, is reportedly being lobbied to lower the "taxes" or royalties charged for Unix. Lobbyists believe they'll have good results within the next weeks.

Organisers of last week's event said the thing got started about six weeks ago and expanded as more and more companies were tapped. However at least half of the fifty-odd concerns involved apparently didn't jump on the bandwagon until the last minute, many of them reportedly nudged along by recent *The Wall Street Journal* article. Others like Fujitsu Ltd and Intergraph Corp didn't get their acts together until it was too late but will apparently participate.

ELAN CONTESTS HIGHLAND'S DE FACTO LICENCE MANAGEMENT CLAIM

Highland Software Inc isn't the only licence management company pursuing COSE and wanting to be declared the standard (UX No 451). Elan Computer Group Inc says it too has been in contact COSE parties about standardising around ELM, its Elan Licence Manager. In a letter to Unigram.X last week, Elan president Ken Greer contested Highland's recent claim that its FLEXIm system is the industry's de facto Unix network licencing standard (UX No 451). Based on figures collected for an unattributed market survey, he maintained that 40% of the Unix software shipped worldwide uses ELM versus 60% going to FLEXIm and claimed that the shares would "flip-flop in the next 12 months apparently because of deals Elan has cut with major concerns such as AT&T, Apple, Autodesk and Sparc International. Greer contends that Elan "has a large enough piece of the market to invalidate any claims by Highland that FLEXIm in the 'industry de facto standard.'" Gradient Technologies Inc, which Highland appears to be competing against, was unmentioned. Greer claims ELM's interoperability, as demonstrated by the fact that it now also support Microsoft Windows and Windows NT, makes it an "ideal" technology for the cross-platform needs of COSE. Greer also took a shot at Highland's dispute with FLEXIm co-developer Globetrotter Software Inc, now in arbitration, that is clouding ownership and notes that Elan remains "legally unencumbered."

COREL TO BUY MOST OF THE ASSETS OF XEROX CORP'S VENTURE SOFTWARE

Way back in March, we reported that Xerox Corp was about to put its Ventura Software Inc desktop publishing software unit on the block - and our story landed with a dull thud and disappeared into a black hole. It was good, nonetheless - as was our speculation that with accumulated losses of perhaps \$10m and annual sales down to about \$30m, it seemed unlikely that people would be beating down Xerox's door to get the business. It was finally sold at the end of last week - and not in the manner Xerox would no doubt have preferred, since the buyer - Ottawa, Ontario-based Corel Corp - is buying only the products - Ventura Publisher, Ventura Database Publisher and all related technologies, rather than the company. The acquisition, still subject to a number of conditions, is expected to be completed by the end of September. Corel president and chief executive Mike Cowpland reckons the acquisition is "the perfect marriage of product and company," adding that Corel is committed to the continuing development and support of Ventura software. The agreement provides Corel with all source and object code for ongoing development for all versions, and also rights to Ventura's customer service and support. Details on future product development will be released as the acquisition progresses. The terms were not disclosed.

THREE-DIMENSIONAL INTERFACE FOR CAD/CAM FROM DIVISION

Division Ltd, part of Bristol-based Division Group Plc, has released dVISE, a three-dimensional user interface for computer-aided design which does not need programming. It runs as an application with Division's dVS software environment and brings in data from widely-used programs such as Autodesk Inc's AutoCAD and Multigen from Thame, Oxfordshire developer, Transformation Software Ltd. The £4,400 package runs on Division's own range of virtual reality systems, the Provision 100 range, on IBM Corp RS/6000s, or Silicon Graphics Inc workstations, for which a customised version of dVS came out in April. On dVS, dVISE runs on both fully-immersive head-tracked installations, and flat-screen Windows and mouse systems.

LACHMAN SIGNS INTROL AS OEM

Lachman Technology Inc has signed its first OEM licence for its Open Storage Manager products with Introl Corporation. The Minneapolis company will be taking all three OSM technologies: Transmigrator, Conservator and Mediator, combined with its optical and tape management software and sold as a hierarchical storage management product under Introl's FlexStor trade name in a soon-to-be-announced product line. Lachman just started licensing OSM last month. It supports SunOS 4.1.3 and claims to be the first true client/server hierarchical storage management scheme to preserve standard file system media formats. Lachman +1 708 505 9555, Introl +1 612 788 9391.

THE DOWNSIZING BUG BEGINS TO BITE IN JAPAN

A survey of 1,168 users in Japan, conducted by Nikkei DataPro and reported in the Nikkei Industrial Weekly, indicated that 214 companies or 18.3% of the survey had already taken measures to downsize their computer facilities. Another 665 users or 56.9% of the sample were considering doing so, while 23.7% were not considering doing so. Of the companies that had already downsized, 72.9% were mainframe users; 39% of those who had downsized had moved from a mainframe to Unix workstations, 13% had moved from a mainframe to an office computer, 12.6% from a mainframe to personal computers, 6.1% from an office computer - small business computer - to personal computers.

BORLAND WINS IBM VENTURE FOR MARKETING OF INTERBASE

Borland International Inc's Borland Japan has signed a value-added reseller agreement with New Intelligent Workstation Corp, a marketing joint venture that was formed last July between IBM Japan and the Nomura Research Institute, to sell IBM RS/6000 AIX Unix workstations and servers. The agreement covers sales of the Japanese language version of the Interbase 3.2 database management system under AIX, primarily to the financial community.

MULTIMEDIA: ORACLE MEDIA LIBRARY

7.1 LAUNCH SET FOR JANUARY

Oracle Corp, Redwood Shores, California is convinced that services such as video on demand are going to be enormous business in a few years, and is determined to be right there at the heart of things. It says it plans to unveil the Oracle Media Library, an audio, text, image, relational and video server early next year as part of its plans to be part of the information highway. The company's founder and chief executive Larry Ellison told *Reuter* that Oracle Media Library 7.1 will be at a "major event in January," and the company later noted that the media library will be one of many new products and partnerships the company will announce in January as part of its efforts to be part of the information highway. As reported, the firm is already working with US West Inc to develop a multimedia information server, but the company says this is a separate effort from the Oracle Media Library, the latter being a more generally applicable product: "You can think of it as a universal database," the company explained.

NAG PUTS IRIS EXPLORER UP ON OTHER UNIX BOXES WITH PORTABLE GRAPHICS LIBRARY

The UK's Numerical Algorithms Group, Oxford, is to use Austin, Texas-based Portable Graphics Inc's NPGL library to put Silicon Graphics Inc's Iris Explorer three-dimensional graphics development environment up on Sun, HP, DEC, Kubota and IBM workstations. NPGL is a hardware-independent implementation of SGI's popular Iris GL 4.0 graphics library and allows Iris applications to be moved to other platforms. Versions for Sun workstations will be out first, with prices starting at \$2,000 - others are to will follow.

STILL BUYING, LEGENT PICKS UP CORPORATE MICROSYSTEMS

Legent Corp, Herndon, Virginia is back in buying mode in a big way, and having moved for Networx Inc last week (UX No 451), it yesterday announced it had acquired Corporate Microsystems Inc, Lebanon, New Hampshire developer of software distribution and file transfer software for Unix and OS/2. Legent reckons that with the acquired technology, it now has the most comprehensive set of software distribution and file transfer offerings, encompassing both server-based and host-based products, plus asynchronous and TCP/IP via satellite communications. It also likes the access it gets to Corporate's value-added reseller and distribution channels, which take it further from its traditional centralised information technology market. The target has 42 employees and 1,500 customers; terms were not given.

ICL DEBUTS DRS3000 PENTIUM SYSTEM, CONSIDERS UNIXWARE OPTION

As expected, ICL Plc last week announced its first Intel Corp-based DRS3000 Unix box with a 60MHz Pentium CPU, the Level 656 (UX No 450). ICL says the box will support up to 100 users and will be priced at from \$7,500 when it ships mid-October. The server is bundled with DRS/NX 7, ICL's implementation of Unix SVR4.2. ICL has been evaluating Novell Inc's UnixWare NetWare-ready operating system for some time, but hasn't yet reached a decision about whether to offer it on the DRS3000 line. The systems are effectively Unix versions of the ICL's TeamServer PC systems, in this case, the F5/60 Pentium box. Santa Cruz Operation Inc and OS/2 will also run on the architecture and can be bought separately for the TeamServer system. ICL claims an installed base of 8,000 DRS3000 machines, 1,500 sold this year.

INTERGRAPH SETS SHAREHOLDER PLAN

It's all very well putting in place these elaborate shareholder rights plans to ward off unwanted takeovers, but none has ever actually been successfully activated in anger, and these days they usually simply signal that a company is discretely putting itself up for sale. Huntsville, Alabama-based Intergraph Corp says its board of directors adopted a shareholder rights plan and declared a distribution of one common stock purchase right for each share of Intergraph common stock, the ostensible aim being to deter coercive takeover tactics and help prevent partial tender offers. Each right will become exercisable only if a person or group acquires or makes a tender offer for 15% or greater ownership in the company's common stock, or if mergers or assets sales involve more than 50% of the company's assets or earnings power, it said. Meanwhile, Intergraph has been awarded a \$421.9m 12-year US defence contract for computer-aided design hardware, software, maintenance and support services for defence and other federal agencies.

MIPS HAS FIRST TFP SILICON, SHIPS DELAYED TO MID-94?

As expected (UX No 440), Mips Technologies Inc has now received first silicon for the high-performance floating-point intensive R4000 iteration with 4m transistors, known as TFP (UX No 440). Toshiba Corp is making TFP for Mips' parent, Silicon Graphics Inc, which has already announced a high-end TFP-based Power Challenge parallel system which is due by year-end. TFP's 300 MFLOPS peak performance and 1.2Gb per second bandwidth to the external cache has apparently already attracted the attention of several supercomputer manufacturers. The two-chip set - which has two integer units, two floating-point units, two load/store pipes and one branch unit - won't replace Mip's R4400 but will satisfy SGI's need for floating-point performance until the T5 or Terminator arrives around the end of next year (UX No 440). *Microprocessor Report* expects the 75MHz TFP to match the integer performance of the 150MHz R4400 and double its floating-point mark; meaning 100 SPECint92 and over 200 SPECfp92. DEC's current 200MHz Alpha AXP 21064 is currently at 200.4 SPECfp92. TFP can issue four instructions per cycle, the highest of any conventional RISC CPU. Although that's the same as IBM Corp's Rios RISC, Rios can only issue four instructions at a time if they consist of an integer operation, floating-point, condition-code and a branch, which doesn't happen very often and therefore the chip rarely performs at peak issue rate *Microprocessor Report* observes. Due to its complexity however, TFP may not ship until mid-1994. TFP is the first to implement the Mips IV architecture, which includes all of the 64-bit extensions in R4000's Mips III. New extensions are for floating-point performance and some instructions are similar to those in Sparc versions 9 and Alpha. No pricing or availability details yet, but Mips hopes it will be between \$2,000-\$3,000. *Microprocessor Report* estimates manufacturing cost of the integer and floating-point units at \$850, compared to \$480 for the Intel Corp Pentium and \$185 for R4400.

HITACHI UNVEILS HARP-1 PA-RISC CLONE - NOT FOR GENERAL RELEASE

After three years in the making, it seems that Hitachi Ltd's super-scalar Harp 1 implementation of Hewlett Packard Co's Precision Architecture RISC (UX No 449), isn't going to go on general release. Manufactured in four layer metal using 2.8m, 0.5 micron transistors, the 120MHz BiCMOS part is slated at 70 SPECint92 and 110 SPECfp92 - HP's PA7100 is pegged at 80 SPECint92. Harp has a dual cache arrangement compared to PA7100's single-cycle external cache, and is larger in size than Sun Microsystems Inc's SuperSparc, but smaller than the Intel Corp Pentium or Mips Technologies Inc TFP. *Microprocessor Report* expects silicon to go into production by mid-1994 and estimates pricing at between \$1,000 and \$2,000. Hitachi may use Harp-1 in its own systems - it is estimated to have sold only a few hundred HP PA-RISC systems - a Harp-2 is expected. Meanwhile, two other PA implementations are expected to be announced next month for the embedded market - Hitachi's PA/50 and an Oki Semiconductor part.

NOVELL TO SHOW MOBILE LAN SOFTWARE AT UNIX EXPO

At Unix Expo later this month, Novell Inc is expected to unveil what is being dubbed Mobile WorkPlace, an evolution of its LAN workplace TCP/IP software for desktops and portables that'll make it easier for users to tie into new LANs and other other networks when they are away from the office. Beta versions are expected in October with availability slated for next year, at \$100. The technology combines LAN WorkPlace's TCP/IP and Point-to-Point Protocol support with features that are said to ease access to remote networks and use of remote e-mail. It will allow users to work independently, away from the office, and remotely access their networks - TCP/IP hosts or NetWare servers - via dial up telephone lines, but eventually wireless connections. The software enables modem connection profiles to be created for use in different network environments as Virtual Loadable Modules which can be loaded only when needed.

OLIVETTI TO RUN E-TYPE UNIX SVR4 PERSONALITY ON ITS ALPHA BOXES - NT TO BEGIN WITH

The latest additions to Ing C Olivetti & Co SpA's LSX 5000 Unix SVR4 and Santa Cruz Operation Inc range of high-end servers come with 60MHz Pentium processors and a commitment to put Microsoft Corp Windows NT on the systems - the 5040E and 5050. The LSX range of uni- and multiprocessors will soon share shelf space with Olivetti's first Alpha AXP RISC-based workstations - the Italian firm will start buying them in from Digital Equipment Corp this autumn. Thereafter, as part of its 1992 agreement - which also leaves DEC with up to 10% of the firm (UX No 390) - Olivetti will start building its own Alpha workstations, though no timescales were offered, and progress to Alpha-based servers. Olivetti had been expected to start shifting DEC's Alpha kit from May, and said at the time that it would put a Unix SVR4 implementation up on the things instead of the OSF/1 operating system DEC supplies. In the meantime however, DEC revealed plans for a Unix SVR4 personality - Habitat - that it will offer as an option on top of the OSF/1 kernel (UX No 423). It now appears that Olivetti has been co-developing the personality, which it refers to as E-type, after the British Jaguar sports car of the same name. Olivetti says it'll offer Alpha workstations running Windows NT from the autumn, before E-type becomes available sometime during the first half of next year. The phase-in period will depend on several factors: the market response to NT, how quickly NT technologies mature and what other NT products are launched in the meantime. DEC confirmed that plans for the Unix personality were proceeding - the environment is now available to selected developers. It allows users to operate a BSD Unix or Unix SVR4 shell which hooks into OSF/1 system calls. DEC will be showing Habitat at Unix Expo in New York in a couple of weeks, but doesn't expect to ship products with the personality until the beginning of next year.

..PYRAMID OEM DEAL HAS JUST A YEAR TO RUN

And as expected (UX No 390), the arrival of Alpha products at Olivetti will at the same time signal the beginning of the demise of the Italian's OEM relationship with Pyramid Technology Corp, an important source of revenue for the Mountain View, California-based firm. Olivetti sells Pyramid's multiprocessing Mips Technology Inc RISC-based boxes under its own name - executive vice-president, Lucio Pinto, confirmed that Olivetti will stop buying Pyramid boxes in around a year's time, when "there will be a transition from Pyramid to Alpha."

SANDERSON SELLS CONTROL OF GENERAL AUTOMATION TO LARRY MICHELS TEAM

UK firm, Sanderson Electronics Plc, Sheffield, has sold a 20% stake in General Automation Inc to a team led by former Santa Cruz Operation Inc chief Larry Michels, now chairman of the Anaheim company. The move by Michels and his team means that they are effectively taking control of the company from Sanderson which no doubt feels that the Anaheim, California Pick-popper was dragging its figures down rather too much. Michels - who left the company he co-founded, SCO, under something of a personal cloud that we don't need to go into here - and his team now plan to move the company full-steam into the emerging open systems market. New products the firm has planned will provide Pick developers the tools they need to carry their current software forward into the rapidly evolving open systems environment. Former chairman Paul Thompson has resigned to concentrate on Sanderson's UK operations - he is a managing director of the Yorkshire company.

NEXT HARDWARE AND PLANT BEING AUCTIONED OFF - SO WHERE'S CANON?

So what has become of the plan for Canon Inc to take over NeXT Computer Inc's hardware technology and Fremont, California plant? According to the *San Jose Mercury News*, much of the stock is being auctioned, but NeXT officials insist that Canon is "in the middle of finalising" a formal deal over issues such as NeXT's hardware technology and distribution details, acknowledging that Canon's interest in acquiring the factory diminished early in negotiations. The rest of the deal is hung up mostly because US and Japanese accounting laws being vastly different, making it hard to draw up an agreement that has favourable tax consequences for both parties.

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Business Objects Inc has opened a subsidiary in Cologne, Germany, **Business Objects GmbH**. The Cupertino, California-based developer of the **Business Objects Query** language already has offices in the UK and France and distributors in nine other European countries.

DEC has put **Delbert Stanley**, former chairman and chief executive officer of **Nynex**, on its board.

Boston, Massachusetts-based **AnyWare Associates** has a new service that allows Internet mail users to send faxes directly from their terminals to anyone with a fax machine, whether they are on the net or not. **FaxiNet** converts e-mail messages to facsimile format and costs from \$20 to subscribe, plus a \$10 monthly maintenance charge - transmission charges go from \$0.50 per page. +1 617 522 8102 or sales@awa.com

ParcPlace Systems Inc is discontinuing its **ObjectWorks C++** product to focus on its C++ GUI builder **Object Builder** and **SmallTalk**-based **Visual Works**. It has found that Unix developers don't want complete development environment but would rather assemble them from tools offered by a variety of companies. It will continue to support **ObjectWorks C++** until next August. Meanwhile it has arranged for **Sun**, **HP** and **Centerline Software**, which also distributes its **Object Builder** and **Object Interface Builder**, to offer to shift **ObjectWorks** customers to their own products.

Adobe Illustrator 3.5 for Sun Microsystems Inc workstations and servers is now available following their technology agreement signed last year - it's already up on **DEC**, **HP** and **NeXT Unixes**.

Personal computer-to-host communications software specialist **Wall Data Inc**, Redmond, Washington, has endorsed **Novell Inc's AppWare Network Application Development Strategy (UX 443)** by declaring its intention to include an object-oriented **Application Loadable Module** in its **Rumba Tools** for **AppWare** product - due for release later this year. **Rumba**, in conjunction with **Appware**, will enable developers to build graphical and distributed network applications that run in heterogeneous environments.

At New York's **Unix Expo** show later this month, **Gawiser Associates Inc's** **Regenerating Solutions**, Fairfield, Connecticut, will debut version 2 of its **Spotlight Tracking** prospect management system which is based on the **Informix** database and **FourGen CASE** tools. +1 203 331 9300

Wyse Technology Inc has a new range of network expansion boxes for **Unix** and **DEC VAX** systems: prices go from \$900 for the four-port, **TCP/IP** model, rising to \$1,300 for the eight-port **TCP/IP** and **LAT** version.

Intel Corp is thought to be readying low-power and new high-end iterations of its **i960 RISC** for networking solutions: the **P100** will be aimed at the network interface card market, whilst the **100 MIPS P110** is seen as fast network processor for use in a new breed of **Asynchronous Transfer Mode** systems.

Earl Wheeler, general manager of **IBM Corp's** programming systems organisation and creator of **Systems Applications Architecture**, is to retire later this month.

Sybase Inc is taking a swipe at rival **Ask Group Inc** by jumping into bed with **Ask's** software partner **Baan International NV**: **Sybase** has signed **Baan** to optimise its **Triton** manufacturing software for the imminent **System 10** range of database tools; **Triton** was originally rebadged by **Ask** as **Manman/X**, **Ask's** manufacturing package for **Unix** systems.

In the UK, the **Home Office's** immigration service is spending £15m, on an **ICL Ple-based** text and imaging **Unix** system which will allow immigration officers to make immediate checks via desktop terminals and systems for processing machine-readable passports and visas - portable computers will be used on cross-channel ferries - on the 10m non-European Community nationals who enter the UK each year. The networked system will combine two **DRS6000** machines, 30 **DRS3000** boxes and 600 personal computers and terminals and operate at ports and airports, including **Heathrow** and **Gatwick**.

The architect of **Concurrent Computer Corp's** return to profit, chief executive officer **Dennis Brown**, has taken early retirement - **John Stihl** steps in to take over as chairman and CEO.

Kendall Square Research Corp is a company going places - specifically from its present base in **Waltham, Massachusetts** to a 336,000 square foot office campus in the **Bedford-Burlington** area of **Greater Boston**, to be named **Kendall Square Research Park**.

Last issue of **Unigram.X** reported that start-up systems management house **Arkhn Technologies Inc** had corralled **Chemical Bank, Tandy, Texaco, Visa, Informix, Wells Fargo and Bank of America** as client partners to more or less oversee product development. As it turns out these were the firm's references who know its founders from previous incarnations. **Arkhn** currently has no client partners and is looking to sew some up.

To help drum up attendance at the forthcoming **COSE Common Desktop Environment** developer's conference, a half day session on the new common **Unix API** has been added to the proceedings, and a telemarketing campaign has been organised to promote awareness of what **CDE** and **COSE** are all about.

As we went to press, **Roel Pieper**, former president and chief executive officer of **Unix System Labs**, had whittled his short list of what to do next from five down to three opportunities and was understandably finding it hard to pick.

Japanese press reports say **Seiko Epson** is sampling and plans to introduce a 10-30 MIPS, low-voltage 32-bit **RISC** chip, modelled on its own architecture, for embedded markets like portable data terminals, game machines, printers and copier.

We are soon to be blessed with a new convention: **Workstation Expo**, scheduled for **February 7-11** at the **San Jose Convention Center** in California and going after the **HP** market.

Windows emulator house **Bristol Technology Inc** has picked up **Richard Bernado** as project manager. He hails from **Lotus** where he was engineering product manager for **Lotus Notes** in the **Unix Business Group**.

Integrated Computer Solutions has begun shipping the GUI tool **Builder Xcessory 2.6** which **DEC** will use to replace its **Vuit** product. Upgrades go for \$640. Both companies will sell the thing.

Corollary Inc has an immediately available upgrade for owners of **Digital Application 433MP** systems, the **C-bus** multiprocessor system, that quadruples the memory capacity from 64Mb to 256Mb, doubles the clock speed from 33MHz to 66MHz and quadruples the cache. It requires a board swap and new memory **SIMMS**.

Printed-up agendas for the upcoming **USL/Novell Inc-sponsored Unix Perspectives** conference set for **Dallas November 2-4** are now circulating showing a predilection for the executive, integration, system management, development environments, transaction processing and databases. Co-sponsors include **DEC, NCR, Pyramid** and **Unisys**.

Scopus Technology has announced the integration of **Genesys Inc's T-server** with the **Scopus SupportTeam**, customer support module that is part of its **PorTeam** system. The deal will give it integration with telephony hardware such as automated call distributors, **PBXs** and integrated voice response units.

The seventh annual **Telecom Network** get-together, the **French telecommunications and networking** show, is set for **September 14-17** at the **Porte de Versailles International Exhibition Centre** in **Paris**. Expected participants include **Sun Microsystems, HP, IBM, Novell, AT&T** and even **Wordperfect**.

Novell Inc may abandon the **Univel** brand and ship the **Personal Edition** version of **UnixWare** with **TCP/IP** support later this year (**UX No 447**). It is also thought to be looking at ways of integrating **X Windows** into **NetWare** and will ship a shrink-wrapped version of **NetWare** for **UnixWare** by the end of the year. The firm is also expected to merge its **Univel** and **Unix Systems Labs** units into one development organisation, although both names will be retained for external communications purposes.

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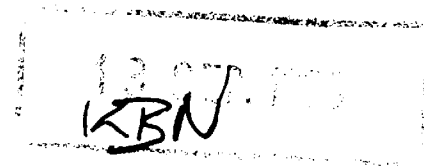
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NOVELL WANTS BIG FOUR IN UNIXWARE CAMP BEFORE UNIX EXPO

With only a week or so to go before Novell Inc makes its first cohesive public statement on its Unix strategy, it is reportedly meeting continuously with the upper echelons of IBM Corp, Hewlett-Packard Co, Digital Equipment Corp and Sun Microsystems Inc trying to hammer out agreements that would have the Big Four adopt UnixWare and publicly support Novell's volume Unix-on-Intel Corp, anti-Microsoft Corp manoeuvres in time for the show. Novell is apparently less concerned with the other Unix OEMs, all of whom either have or, it's confident, will buy into its UnixWare stratagem. It is the Big Four that demand the most serious horse trading, with all of them holding out for some concession or another, according to a Novell report, not buying in at all, according to one of the four. A Novell source claimed IBM appears warm to the idea but wants Novell's cooperation across its entire product line, a resource-daunting prospect. The same source says Sun is the most hostile because of its Solaris investment. Sun however claims IBM (particularly boss James Cannavino) "loathes" Novell and will never go along with its proposals, tracing its feelings to the circumstances under which Ray Noorda came to acquire Unix System Labs. As an earlier report in Unigram.X once suggested (UX No 421), Sun said Noorda was supposed to go in and buy Unix on behalf of a group of companies including IBM. He emerged in sole possession. Sun of course is trying to entice IBM, DEC and HP - and the rest of the Unix community - away from Novell and into its own camp instead. Sun's position is hardly disguised. SunSoft has just set up a swat team under its new sales vice president, Dave Walker, to persuade the top 20 Unix OEMs and the high-volume Intel folks to accept Solaris. It expects to see some action by those "interested in the enterprise" by the end of the year but figures it could take six months to a year to make some impression on its peer group. It figures it stands a very good chance with DEC which, it says, has to abandon OSF/1. "It can't get to the [OS/API] from here," meaning OSF/1. Novell, for its part, insists that Sun is losing its market pre-eminence and can regain it only by biting the bullet on Solaris and running with UnixWare. It claims Sun's patent hostility in the joint meetings may ironically play to Novell's hand. Sun's attitude, it says, has sent the other three scurrying to seek private audiences on the theory that if Sun is so against it, it must be a good thing. HP has grown increasingly fretful over IBM's supposed moves to bring its software quickly into line with the new OS/API (UX No 452), leaving HP lagging behind. And DEC's position, complicated and obviously enticing to Novell because of its relationship with Microsoft, is a cipher to almost everybody. However, it is unlikely any move towards UnixWare would stop any of the companies from supporting the dreaded Windows NT too. It is believed the latest round of talks has reopened the issue of sharing equity in Unix, a notion reportedly shot down again by Novell. Whatever individual agendas are holding up a breakthrough (if that's at all conceivable) may require going into round-the-clock discussions if the companies are to meet the Unix Expo deadline.

IBM POWERPC BOXES - SOME WILL SHOW AT UNIX EXPO...

IBM Corp has a raft of new PowerPC-based RS/6000s in the pipeline, but intends to show just two at UnixExpo next week. First-up will be a fully-configured workstation costing between \$7,000 and \$10,000, and a notebook developed by UK firm, Tadpole Technology Plc, Cambridge. The workstation will be available immediately. It is part of a slew of new systems thought to comprise two high-end boxes - the PowerStation 250 and the PowerServer 250; two low-end workstations - the 25T and the 25W; and a low-end server - the 25S. All incorporate the 66MHz PowerPC 601 chip, though future products will use a range of PowerPC iterations.

...CETIA CLOSE BEHIND WITH POWERPC BOARDS, WORKSTATIONS

Thomson-CSF SA subsidiary, Ceta SA, will release its first PowerPC-based PowerEngine processor boards and workstations in November, just a couple of months later than previously expected (UX No 421). The Toulon firm specialises in VME workstations and processor boards for real-time applications. The first PowerPC boards - UniflashXT - will run a tweaked version of IBM Corp's AIX operating system, into which Ceta says it is building PowerOpen compliance. Ceta - a founder member of the PowerOpen Association - expects full PowerOpen operating system specifications to be made available in a month or so. It also plans to introduce a PowerPC-based workstation at the same time, again running an implementation of AIX. This will come with 256Mb memory and 400Mb to 2Gb disk. A further slew of board and workstation products will follow in December. These are being jointly developed with Los Gatos, California-based software house, Lynx Real-time Systems Inc, and run under the latter's Posix-compliant Unix operating system, LynxOS. The UniLT boards are optimised for real-time applications and the workstation version has identical specifications to the AIX-based box. Both board products will cost between \$5,000 and \$6,000 - workstations will start at \$9,000 - and will be offered to systems integrators and OEMs. Ceta has distributors in the US, Japan, France, Germany, Italy and the Benelux countries - it expects to sign others in the UK and Canada.

PEGABULL OR PEGASUS - SMP POWERPC BOXES, DEPENDING ON YOUR POINT OF VIEW

Compagnie des Machines Bull SA expects the symmetric multiprocessing PowerPC systems it is jointly developing with IBM Corp to arrive during the first half of next year (UX No 449). The systems, still at the design stage, are code-named Pegasus by IBM and Pegabull by Bull. When the systems are released - and IBM may or may not choose to do this at the same time as its partner - the two firms will be in direct competition, as is the case with IBM's current RS/6000 AIX line which Bull resells "in drag" as the DPX/20 running BOS/X. Until March, IBM built all of these machines itself and left Bull to add any extras - now Bull assembles its own RS/6000 variants. The reverse will apply with the symmetric multiprocessing PowerPC boxes, however. IBM is providing the CPU whilst Bull is contributing the multiprocessing technology and it is Big Blue that will rebadge the final product, although it may end up assembling systems too, if volume sales justify it. Bull describes the new machines as its "next generation," but declares that none of the bus interconnect development work undertaken with Siemens Nixdorf Informationssysteme AG and ICL Plc under the auspices of a European Community Esprit II project (UX Nos 411, 452) - the European Declarative System - is being incorporated into Pegabull. "The relationship with IBM has overtaken all the Esprit work," it says.

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GRAFPOINT SEES GROWTH THROUGH VT EMULATION - EXPECTS SHAKEOUT IN PC X SERVER MARKET

Grafpoint Inc, San Jose, California, is branching out into the world of DEC emulation software, offering a range of new VT terminal emulation products for Unix workstations and Microsoft Corp Windows systems. Grafpoint has effectively stripped out the VT emulation elements which are already built in to its better-known Tektronix Inc graphics emulation software, TGRAF, and is selling them separately. Prices go from \$250 for a single user licence to GT-320 for Windows and \$850 for GT-X 340 on Sun, IBM or HP workstations. Server and site licences are also available. If the company can win just a few percentage points of the VT emulation market, it will effectively double its revenue, claims Carl Koppel vice president of sales and marketing. Koppel, a former Santa Cruz Operation Inc marketing manager, who was also responsible for UK firm JSB Computer Systems Ltd's Scotts Valley, California start-up, was drafted into Grafpoint last year, along with president and chief executive officer, Howard Berke, to carve out a new strategy and rescue the firm from what was effectively a "holding position." Grafpoint's founders fell out around three years ago and one of those, Charles Lingel, now chief technical officer, bought his partner out in a lengthy and disruptive parting of ways. Koppel says the privately-held firm will now progress by technology partnerships, merger, or by getting itself acquired, and sees Grafpoint as a \$10m business within three years - it's at around \$3.5m now, going by market share indicators. The majority of its business is the TGRAF Tektronix graphics emulation software offered for Unix, Windows, Macintosh and MS-DOS platforms. That's a guaranteed earner for three or four years yet, argues Koppel. Tektronix is no longer manufacturing its graphics terminals (it got out of workstations a couple of years ago after an unsuccessful flirtation with the Motorola Inc 88000 RISC) and is looking to sell its entire X display business - around twice the size of Grafpoint - to re-focus on its printer division. Grafpoint has a roll-call of users which rely on its cheap Tektronix graphics emulation software to run their businesses. It expects to move these users, like Chevron and Dow in the US, up from MS-DOS versions to Windows, Unix and (in future) Windows NT implementations before they move on to other technologies. Grafpoint claims TGRAF has 70% of that market. Grafpoint's X Windows server for personal computers, X/One, supports the Tektronix Serial Xpress protocol, and has a 3% overall share of the PC X server market, with some 3,500 licencees (UX No 451), around 20% of Grafpoint's business. At from \$300, the company believes X/One offers the cheapest PC X server solution available, and says it'll have a complete set of features, including DECnet connectivity and a TCP/IP protocol stack up under the environment within three months. Koppel expects there to be imminent consolidation in the PC X server market amongst third-party suppliers as X servers become robust commodity items and begin to feature standard tools and components. All the suppliers, for instance, are expected to have Window NT clients ready by the first quarter of 1994 - they have to put their technologies up on Microsoft's TCP/IP stack rather than using their own implementations. "Outside [market leaders] Hummingbird Communications Ltd and Network Computing Devices Inc, all the third party PC X players [including Grafpoint] could be up for grabs," in the shakeout, says Koppel. The talking has begun already. Grafpoint's UK distributor is Tektronix outlet, Technology Ventures Ltd, Luton, Bedfordshire. +44 582 481181. Grafpoint +1 408 446 1919

HYUNDAI AND SUN SETTLE OUT OF COURT

Hyundai Electronics America's San Jose, California-based workstation division, Axil Workstations, has reached an out-of-court settlement with Sun Microsystems Inc over the lawsuit that Sun filed against it back in April, charging that an ex-Sun employee had taken layout plans from Sun and used them to design Axil's 230 board and possibly the Axil 310 Sparcstation 10-compatible. Axil was served with a restraining order and is now shipping a "clean" 310 workstation - the 311 (UX No 442) - and will deliver a redesigned 230, the 235 shortly. The settlement called for Axil to stop making and selling the 230.

COMPUTER POWER ACQUIRES ISLAND GRAPHICS OFFICE DIVISION

Computer Power Software Group Inc (CPSG), described as a Folsom, California-based corporation that provides mission-critical tools to IS organisations through its subsidiaries, last week announced it has acquired Island Graphics' Office Products Division and hired key employees. It now owns the Island Productivity Series, Island Graphics' Unix productivity tools. Terms were not disclosed. CPSG has formed a new company called Island Software with Island Graphics as a minority shareholder to take over development, manufacturing, marketing, sales and support of Island Write, Draw & Paint, Island Presents and IslandCalc. It is currently located at Island Graphics' San Rafael, California headquarters. Paul Remer, formerly vice president of Island Graphics and general manager of the division, has joined Island Software as vice president and general manager. Karen Eriksson, currently president of CPSG's Intext Division, will become president. The game plan is to make the software a cross-platform client/server tool.

XVT OFFERS POWEROBJECTS TO EASE GUI DEVELOPMENT

Boulder, Colorado-based XVT Software Inc has a new set of controls that allow graphical user interface (GUI) developers to build and provide sophisticated high-level functionality for applications running under the interface in much less time than has been possible until now. PowerObjects are portable to the seven GUIs XVT supports and the firm says it has worked closely with SunSoft Inc on the software. XVT observes that it can help provide an answer for the large end-users and independent software vendors who have developed products and systems on OpenLook using the XView toolkit. PowerObject for C ships in October - a C++ version is due in 1994 - prices will go from \$500 on Unix workstations. +1 303 443 4223

INTERFACE ENGINEERING HAS XVM TO MOVE OPEN LOOK USERS TO MOTIF

UK firm Interface Engineering Software Ltd has developed what it says is an application programming interface-level solution for porting Sun Microsystems Inc Open Look-based applications to Motif, and has signed San Mateo, California-based Qualix Group Inc to publish the stuff. The two say the XVM product, due in the autumn, recodes the XView library to make calls to the Motif library - the Xview mouse and menu are modified to behave like Motif.

PROGRAMMED LOGIC ENHANCES COMPRESSION, CACHING METHODS

Somerset, New Jersey-based Programmed Logic Corp, has upgraded its Unix file system compression and caching technology. Desktop File System compresses all data before storing it on disk. The company claims version 2.0 has a better compression ratio than the initial release, with an easier root file system installation mechanism and 25%-40% improvement in file system throughput. Version 2.0 of the High Throughput File System comes with a new intent-logging system which allows file systems to be recovered in a usable state immediately after a power failure or system error. It can also transparently maintain multiple versions of the same file and undelete previously removed files. Both run on Unix SVR4 or SVR4.2-based operating systems running on Intel Corp iAPX-86 systems and are priced at from \$200 in single-user quantities - \$500 for multi-user versions. Upgrades are \$100 and \$200 respectively. +1 908 302 0090.

MOTOROLA SETS SNAP-TOGETHER 88110 RISC SERIES 9000

Motorola Inc's Computer Group will today, Monday, unveil a raft of new machines based on its 88110 RISC, supporting up to 1,000 users. According to the company, the Series 9000, its first full 88110-based system architecture, provides "snap-together" functionality for adding new modules without having to change internal cabling or wiring. Indeed, Series 9000 systems will be sold as a stack of modules that are plugged together to achieve the desired configuration. A basic system has two modules, the MVME197 board with one or two 88110s - introduced last year - and two additional VME slots, and the other with sockets for up to four SCSI devices. CPU boards can be swapped for more power - VME expansion modules or SCSI device expansion modules can be added as required. Internal components, including power supplies and SCSI devices snap in and out. Series 9000 CPU modules with a 33MHz MVME187 board and 32Kb cache cost from £3,100, rising to £40,500 for the 50MHz MVME197DP with 128Mb RAM and 544Kb cache. At the low-end of the system range, a fully-configured 33MHz Series 9000 M810 with from 16Mb to 256Mb RAM performs at 27.7 SPECint92; the 40MHz M911 with from 32Mb to 576Mb RAM at 42 SPECint92; and the 50MHz M921 with from 32Mb to 576Mb RAM at 54 SPECint92. There are no SPEC ratings for the two-way system - a quad processor will be added early next year.

UNIX SYSTEMS GROUP BEGINS DISTRIBUTED MANAGEMENT ROLL-OUT...

Novell Inc's Unix System Group is reported to have shipped OEM versions of its Distributed Manager (DM) framework of services and protocols. First system management applications that'll take advantage of it are due this month. DM is Unix System Labs' implementation of the Tivoli Systems Inc TME environment, which is also the core component of Open Software Foundation's Distributed Management Environment. Before its acquisition by Novell, USL's Tivoli work was seen as the centrepiece of Unix International's distributed vision of the future for Unix - Atlas. DM runs on Intel Corp iAPX-86 computers with UnixWare and Unix SVR4 and SVR4.2 implementations.

...UNIXWARE 1.1 WITH TCP/IP DUE

Meanwhile, Unix Systems Group is expected to announce version 1.1 of UnixWare in client and server forms - the Personal Edition now re-bundled with TCP/IP - at Unix Expo next week (UX No 452). Release 2 of both versions, with support for symmetric multiprocessing, is due mid-1994. That'll use UnixWare MP System V Kernel - Novell parlance for what used to be Unix System Lab's Unix SVR4.2 MP and will come with NetWare 4.0 services, including NetWare client software, according to USG.

CRAY RESEARCH DELIVERS PROTOTYPE ALPHA MPP SYSTEM

Cray Research Inc has delivered a 32-CPU prototype of its DEC Alpha AXP-based massively parallel system to the Pittsburgh Supercomputing Centre - it is said to be meeting all of its performance expectations and is reported to have the best bandwidth capability of the massively parallel systems currently on the market. However, *Electronic News* reports that the news is not all good: it says Cray hasn't yet decided whether to use Alpha for its second-generation massively parallel systems and is using an architecture that allows it to keep its options open. The prototype Alpha system, code-named TD3, uses a three-dimensional interconnect system to increase bandwidth.

OBJECT DESIGN STORAGE ENGINE NOW WITH SUN - PLANS DESKTOP OBJECT ENVIRONMENT, NEW OBJECTSTORE RELEASE

Object Design Inc, Burlington, Massachusetts, has completed work on the object storage mechanism which Sun Microsystems Inc's SunSoft unit is to incorporate into its Distributed Objects Everywhere (DOE) development environment, backbone of the firm's object technology drive. SunSoft tapped Object Design for its Object Management Group CORBA-compliant environment in an agreement signed last June, which called for Object Design to pull apart its ObjectStore database and retrieve the elements needed to develop a Persistent Storage Manager Engine (PSME). The PSME, also compatible with ObjectStore, acts like an object-oriented file system, providing object storage capabilities for DOE applications that do not need the functionality of a full object-oriented database. Terms of the agreement allow SunSoft to license PSME to Hewlett-Packard Co for use with the Distributed Object Management Facility it co-developed with SunSoft - Object Design can also license PSME to other companies. SunSoft has accepted the engine from Object Design - which it is using internally - and is working on an open interface to PSME which will allow users to upgrade to the full-featured ObjectStore when required. First DOE releases including PSME are expected early next year (UX No 440). PSME has been scaled to work with large file sizes and to fit easily inside SunSoft's Solaris Unix operating system. In addition, SunSoft's PSM interface has been submitted to OMG's Object Services Request for persistence storage technology, and is backed by a dozen other firms, including Object Design, HP and DEC. IBM, the only other remaining contender to OMG's request, is already working with SunSoft on combining their respective submissions. In developing PSME, Object Design has been working to shrink the size of its object technology and reduce memory requirements of the various components. Object Design, which plans embedded, single-user, client and new multi-user implementations of ObjectStore, says it'll incorporate the smaller footprint technology in a desktop version of its object environment during the first half of next year, together with release 3.0 of the full-blown ObjectStore system. Object Design is shooting to do \$20m this year after turning over \$11m in 1992. IBM is its largest customer - SunSoft makes the top ten.

SUN AND USL "CLOSEST TO UNIX OS/API"

In the wake of the new OS/API Unix initiative (UX No 452), it occurred to us to ask how close to Unix SVR4 it really is. By way of answer, we were told that Sun Microsystems Inc followed by Unix System Labs come closest to having all the work done, necessary to conform to the 1,170 APIs. USL figures it's at least 75% of the way there. Between 25 and 30 of the application programming interfaces are new to it and another 25 to 30 need modification. This means that SVR4 followers like Unisys Corp and NCR Corp aren't too far off the mark. Of the big name companies that are part of the initiative Hewlett-Packard Co and IBM Corp are reputed to have the most work to do. However, there are suggestions floating around that IBM has been burning the midnight oil trying to move closer to compliance, something that now has HP concerned and probably doing something about.

INTEL TO SHRINK AND COOL PENTIUM

As part of its Pentium upgrade programme due to be unveiled at Comdex/Fall in Las Vegas, Intel Corp is expected to reveal details of a new process for manufacturing smaller, cooler versions of its big, hot Pentium chip. At 13 Watts, Pentium has suffered well-documented heat dissipation problems that particularly affect small desktops and laptop systems. 3-volt, 0.6 micron, 100MHz Pentium iterations for laptops and notebooks are already part of Intel's plans - the go-faster PT24 OverDrive upgrade part for 80486 systems with an OverDrive socket is the one that's been causing concern.

CYRIX SETS OUT ITS STALL, STEPS UP HEAT ON INTEL

Cyrix Corp announced three new Intel 80486-compatible processors last week and dropped hints about its forthcoming Pentium competitor - the architecture of which will be unveiled on October 18. Two of the new chips - the Cx486DRx2 and Cx486SRx2 - are innovative upgrades designed to enable end-users to upgrade their 80386-based machines. The third part, the Cx486Dx is a straight 80486 replacement. The Cx486Sx2, which will initially come in clock-doubled 16MHz and 20MHz versions, is the most unusual chip. Because 80386SXs are soldered into the mother board, rather than socketed, removing the old chip is not a job for the average user. Instead Richardson, Texas-based Cyrix has developed a small mechanical gizmo that sits the new processor on top of the old - the user simply pushes down firmly and the replacement processor drops into the existing pin holes. The new device disables the old chip - or at least it should do. Unfortunately, early runs of the 16MHz Intel 80386SX lack the necessary disabling technology, a problem that the company says will affect around one third of potential upgraders to 16MHz machines. The 486SRx2 should ship by year-end, no prices yet. The other upgrade processor, the Cyrix 486DRx2, has an easier job since full 80386s tend to be socketed. Again the chip is clock-doubled, initially coming in 16/32MHz, 20/40MHz and 25/50MHz versions, with a 33/66MHz version promised by year-end. Cyrix reckons that it has unearthed unnecessary wait-states in Intel's in-pu-t-output handling and claims that in addition to the raw processor-speed improvements, users will find that their video and disk access times are improved by around 30% when they upgrade. Prices start at \$300 (£200) for the 16/32, with the 20/40 and 25/50 models costing \$350 (£240) and \$400 (£270) respectively, with street prices for a 25/50 at around \$300. The parts began shipping in the US a couple of months ago and 20,000 are now installed.

NOVELL READY TO PLUG PERSONAL DIGITAL ASSISTANT CREDIBILITY GAP

Novell Inc is in discussions with 20 hand-held and personal digital assistant manufacturers on ways to tie the mobile technology into corporate networks. The company says several of the 20 - most of which are Japanese - have signed up to incorporate Personal NetWare in their devices. The drive to support mobile computing was behind many of Novell's investments and takeovers over the past three or four years according to executive vice-president Darrell Miller. In particular, International Business Software, bought in April 1992, has "virtual server" technology key to keeping files on remote devices synchronised with the central server. Mobility is also central to the development of AppWare, Novell's distributed application development environment (UX No 443). AppWare is built on visual programming tools from Serius Corp and cross-system tools from Software Transformation Inc - both recent acquisitions. The other key plank is an object request broker from HyperDesk Inc, in which Novell has a 20% stake. A prototype Personal Server combining communications and applications server functions currently running at Novell under UnixWare, but it will take a couple of years for the elements that Novell has developed to evolve into a marketable "product". In the meantime Novell will provide a selection of tools to help pioneering corporate users build their own AppWare-based systems; Personal NetWare, the client end of the technology, is a nebulous, umbrella term, used to describe NetWare services that can be embedded into a variety of operating systems. The first public licensee is Go Corp which has incorporated Novell's IPX network protocol and its Message Handling System into its PenPoint pen operating system.

APPLE "TO LICENCE SYSTEM 7" IN POWERPC PROMOTION

US reports say that Apple Computer Inc intends to try and raise interest in the PowerPC microprocessor it has co-developed with IBM Corp and Motorola Inc by licensing its Macintosh System 7 operating system to other personal computer manufacturers interested in using the chip. Apple is said to have already offered System 7 to such IBM clone-builders as Dell Computer Corp and Gateway 2000 Inc. Both firms declined to comment. Until now, Apple has indicated that other vendors will be able to run Macintosh software only in an emulation window under the PowerOpen Unix environment, which should be available by the middle of 1994. Earlier this year, it also came to light that Apple engineers are experimenting with a modified version of System 7.1 that would run on Intel Corp 80486-based machines, using Microsoft Corp's MS-DOS.

POWERPC AND AS/400

There have been a number of conflicting reports in the US press over the past few weeks about IBM's intentions of running Unix, OS/2 or Windows NT on the AS/400, and sure 'tis no wonder, since the truth is very complex, and the answer is "yes and no".

The most likely pattern for the future of the AS/400 with PowerPC will be this, explains architect Frank Soltis: PowerPC hardware will be overlaid by a layer of software combining the Mach kernel and the AS/400 licensed internal code - microcode. On top of that will sit OS/400 and a load of Taligent-type "frameworks" to provide services not found in OS/400 that any non-OS/400 applications written to run under Unix or whatever may require.

So what is Taligent really about? According to Soltis, its primary function is providing operating system support elements - frameworks - that will enable designers to build chameleon-like capabilities into their machines. He notes that Taligent realises some designers will not want to get their hands dirty with such layers of code - frameworks - lurking under their operating system. They will rather want a complete operating system, and that is Pink.

So will we see applications for Microsoft Corp's Windows NT running on the AS/400? It depends entirely on what customers demand, says Soltis. Anything that runs on PowerPC is amenable to the process, he says, noting that Windows NT is being implemented for the chip (the work is believed to be being done by Motorola Inc - for good political reasons no doubt).

Staying with PowerPC, Soltis confirmed that the new AS/400s will use exactly the same processors as the high-end 64-bit RS/6000s - custom PowerPC implementations that IBM is designing. This raises the question of whether the RS/6000s and AS/400s of the future could in fact be the same box running different software - technically there is no reason why not, according to Soltis, though whether this is probable or not is a pure marketing issue. Certainly the fact that both the Rochester and Austin manufacturing plants have chronic overcapacity will make the rationalisation attractive to the company - Soltis admits that either Austin or Rochester could meet the entire US requirement for both AS/400s and RS/6000s, and that it has been this way for a couple of years - so IBM could end up with the same box perhaps, but with a different badge and a quick lick of paint to give it its personality.

HOSKYN'S SELLS THE INSTRUCTION SET IN THE US TO ITS EMPLOYEES

Sometime ago Hoskyn's Group Plc concluded that the only way to expand its North American open systems training and consultancy business would be to open a string of centres in major cities across the US. This didn't fit with its Cap Gemini Sogeti SA parent's ambitions and Hoskyn's was forced to look at other ways of carrying forward its business over there, then conducted by the Cambridge, Massachusetts office of its October 1989 Instruction Set acquisition. After managing to drum up only lukewarm interest for the business of The Instruction Set from its US distributors, Hoskyn's was persuaded that Instruction Set itself was a suitable enough vehicle to maintain channels for its training course software and sold the company to its employees on September 1 for an undisclosed fee. The sale means the former trailblazing UK open systems outfit is now in business as a free-standing private company once again, albeit in the US. It has bought all of the assets of the US branch from Hoskyn's, and has distribution and amendment rights to Hoskyn's open systems training course software in the US - there will be some joint development - although Hoskyn's retains copyright to the products. The two firms will continue to work together. Anne Peter, president of The Instruction Set since 1991, continues in the position, with Beran Peter as chief executive officer and Kevin Honan, vice president of sales. It has a bunch of distributors across the US, including InfoTech in California.

UNISYS POURS UNIX, NT, CTOS, INTO CLIENT/SERVER GROUP

Unisys Corp has put all responsibility for future development and marketing of its Unix, Windows NT and CTOS-based servers, workstations, personal computers and related network products into a new Client/Server Systems business unit based in San Jose, California. Unisys has appointed Donald Coleman - a former NCR Corp vice president, and most recently president of US PC software house Ventana Corp - as president of the new operation, which says it'll operate as though it is an independent company within Unisys. The unit will be divided into three groups. A Unix System Division will be responsible for the U 6000 workstation and server series. The PC Systems Division will look after PW2 Advantage and Advantage Plus PCs, and the Distributed Systems Division, will cover CTOS workstations and servers and Windows NT-based solutions.

SGI ENHANCES CASE OFFERINGS IN DEVSTATION PACKAGE

Silicon Graphics Inc has announced version 2.0 of its CaseVision/WorkShop graphical development environment, which includes C, Fortran and C++ support, a three-dimensional array visualiser and a multiprocessing development system. It is priced from \$2,000. Additional language interpreter modules are \$1,000 (C), \$3,000 (C++) and \$3,500 (Power Fortran). CaseVision supports a range of other Case and publishing applications, integrated via Sun Microsystems Inc's ToolTalk inter-application communication system. A \$6,000 SGI Indy DevStation includes the Indy desktop workstation with 340Mb disk, Iris development libraries, C compiler and Case/Vision/WorkShop.

GARTNER GROUP EXPANDS WITH NEW SCIENCE ACQUISITION

Stamford, Connecticut-based computer industry analyst Gartner Group Inc, which just filed to offer shares and achieve a relisting in the US, is embarking on the acquisition trail, picking up New Science Associates Inc of Westport, Connecticut. New Science provides subscription-based research and analysis of the information technology industry complementary to the products and services of Gartner Group. New Science will retain its own identity and organisation and will not be absorbed into Gartner Group. No financial details given.

PIEPER TO HEAD TANDEM'S UNGERMANN-BASS COMMS UNIT

Roel Pieper, former president of Unix System Labs, has decided in favour of the turnaround and will be heading up Ungermann-Bass Inc as president and chief executive, taking over from co-founder Ralph Ungermann. He also becomes an officer of Ungermann-Bass parent Tandem with the title of senior vice president. He made the choice over staying with AT&T and getting involved in Go and Eo or going with a start-up. Attracted by Tandem's telecoms potentials, he will be moving to California.

SAS BUYS GESCAN FOR DOCUMENT MANAGEMENT

SAS Institute has acquired the software technology assets of Gescan International, the five-year-old real-time document management company and GE spin-off. Gescan will continue to market and support the products under a multi-year reseller pact. Financial details were not disclosed. SAS envisages using the stuff for context-sensitive on-line documentation for its flagship products, "intelligent" e-mail and competitive intelligence extensions to its executive information systems toolset. No timetables were given. Gescan's line supports Sun, HP, IBM and DEC Unix boxes.

BREAKAWAY HAS NEW SYSTEMS ADMIN TOOL

San Francisco-based Breakaway Software has introduced Picus, a new system administration tool for Unix server and clients that it says can be integrated with other third-party systems administration functionality. Using a daemon-based messaging system, it can monitor multiple machines, workstations or servers, concurrently in any size network. Picus is not self-contained. It is architecturally layered with each of its layers responsible for providing one phase of acquiring, preparing and presenting data. Modules include security, watchdog capabilities, user management, archiving, TTY processes, maintenance and printer configuration, Picus configuration, pool configuration and integrity enforcement, networking and managing large networks. The application is used as a standalone or networked package. It can access heterogeneous platforms including Unix, X Windows, TCP/IP, Windows and Motif via a graphical user interface. Pricing is \$2,000 standalone; \$4,000 networked.

AGE RELEASES X IMAGE SYSTEM TO MIT...

AGE Logic Inc, which got the contract for the work back in January, has released the alpha version of the X Image Extension Sample Implementation (XIE-SI) to the MIT X Consortium. XIE, through specialised compression and decompression algorithms, will provide a standard optimised way to integrate documents and image data into applications for Motif and the X Window System. The protocol supports colour, grayscale and black and white image formats. The XIE-SI release includes a beta-quality document imaging subset (DIS) designed to reduce the cost and memory requirements for applications dealing primarily with black and white images. CCITT Group 3 and Group 4 fax and run-length encoding compression schemes are supported in DIS. AGE claims the performance barriers for serious imaging in the X Windows System will be lifted. Beta release is scheduled for the fall, with final release slated for delivery around the end of the year.

...HAS EMBEDDED X EVALUATION SYSTEM

AGE Logic has evaluation kits available for its new XoftWare ATX (Advanced Technology Software) X Window software system for embedded applications and X terminals manufacturers to optimise for particular MPUs and specific display hardware. It includes a multitasking executive, the XoftWare X11R5 server and X libraries, selected local clients, XoftNet comms software, XoftBoot ROM-based boot software, configuration software and utilities.

ALSYS OFFERS MOTIF SUPPORT FOR SQL DATABASE APPLICATIONS

In November 1992, Televerket, the Swedish state phone company sold its San Diego, California Telesoft Inc acquisition to Thomson-CSF SA's Alsys Inc. At next week's Unix Expo show, Alsys' Case division will release TelUse/DB 1.0, a tool which allows any SQL-based database application to run under Motif when used in conjunction with the firm's UIMS interface-builder. Initially for Sparc RISC systems running Sybase, the software is out in November and priced at from \$1,900. Oracle, Ingres and Informix versions will follow.

GENERAL MOTORS GERMANY DOWNSIZES TO CONVEX SUPERCOMPUTER

Electronic Data Systems Corp has installed a Convex Computer Corp C3820 Unix-based supercomputer at General Motors Europe's datacentre in Russelheim, Germany. According to *Computerwoche*, the C3820 incorporates from two to eight CPU's, has 1Gb of main memory and a Motif-based user interface. The machine supports the technical development centre, which employs approximately 8,000 staff, and will be used as a file server in a client/server environment, supporting dedicated workstations and a Cray computer for number-crunching. EDS is porting applications from an IBM Corp mainframe onto the C3820.

STRATUS FAULT TOLERANT BOXES TO SUPPORT SNA ENVIRONMENTS

Fault-tolerant computer builder, Stratus Computer Inc, wants its high-end Unix-based XA/R machines to become the downsizing kit of choice and so has released two software packages, which enable the boxes to act as hosts in IBM Corp SNA environments. According to *Computerwoche*, the two programs are FTX Secondary SNA, which enables XZ/Rs to act as remote 3270 cluster controllers by supporting LU 0, 1, 2, 3; and FTX APPC, which enables communication between Stratus and APPC applications and supports LU 6.2, PU 2.0 and 2.1, as well as single, multiple and parallel sessions. Both products enable communication with IBM mainframes, AS/400s, Series/1, System 36 and 38 as well as personal computers. No pricing was available. Up till now, XA/R machines have acted simply as front-ends for mainframes, and SNA environments were only supported via its proprietary VOS operating system.

DU PONT HAS GLINT 3D GRAPHICS ACCELERATOR

Du Pont Pixel Systems Ltd, Egham, Surrey, launched Glint, a three-dimensional accelerator graphics chip for Unix and Microsoft Windows NT last week. Glint is targeted at all board and system suppliers involved in the 3D graphics and multimedia markets, the company says. The device is a custom built processor and incorporates all the rendering, fragment processing and rasterisation operations of OpenGL - the 3D de facto standard for graphics - on a single chip. 3D functionality includes gouraud shading, bit maps, texture mapping, anti-aliasing, alpha blending and all other modes compliant with OpenGL. The chip also includes 2D acceleration for X Windows and Windows NT. According to Du Pont Pixel, in a typical system, the geometry transformations will be done by either a fast processor, such as Intel Corp's Pentium, or a dedicated local CPU like an i860. The chip also supports 8, 16 and 24-bit Rgb, and 4 and 8-bit colour index framebuffers for displays as large as 1600 x 1200 pixels. Du Pont Pixel is currently in negotiation with a number of semiconductor companies to fabricate the CPU, which is being developed using the VHDL model. The firm says it expects to sign contracts with two foundries, as yet not named, in the US and Japan by the end of the year. Meanwhile, Du Pont Pixel is currently setting up two partner programmes for Glint licensees. The first vendor partner programme will enable developers to license Glint's VHDL (the computer hardware description language) model to incorporate into their own chip designs. The second tier is for licensees who are interested in the device's ASIC libraries for specific vendor implementations. The company says this will allow vendors interested in ASIC technology, particularly from the embedded market, to offer OpenGL as a precompiled library. The VHDL library will be the first product to be offered. Glint processors will begin sampling in mid-1994.

CENTERLINE DEBUTS TESTCENTER QUALITY CONTROL TOOL

In a move to broaden its product portfolio, Centerline Software Inc, Cambridge, Massachusetts, has introduced TestCenter, a software development tool that claims to automate quality control during development. TestCenter is the first of a family of development tools to be announced over the course of the next two years, and is designed to enhance code quality and to optimise program memory use, Centerline says. The tool has four main features automatic run-time error detection, which flushes out hard to find bugs during coding. Memory leak checking, which allows programmers to build applications with maximum memory requirements from system memory resources; and through graphical test coverage, that lets programmers measure the thoroughness of their test runs visually on screen. The tool also allows users to adjust testing priorities and requirements. TestCenter comes with a choice of graphical user interface, Motif or Open Look, and is available for Sun Microsystems Inc Sparcstations now. It is priced at \$2,995 - £2,500. A version for Hewlett-Packard Co HP-UX will follow in the first quarter of 1994. Meanwhile, Centerline is currently developing a test management system for cross platform environments. A client/server tool, the software will be able to provide an application 3GL/4GL and code testing framework for both personal computer Windows- and Unix-based systems. The company says it will introduce the tool in the second half of 1994.

ROUNDUP

Omri Serlin's *FT Systems* newsletter thinks Monday, October 4 could be the day **Pyramid Technology Corp** could unveil its 100MHz R4400-based multiprocessor systems, codenamed Jolt. Evaluation systems have gone out the door, says the newsletter. As we reported at the end of June (UX No 442), the systems are 2-16 processor boxes, with a new high-speed bus architecture and clustering capabilities jointly developed with Oracle Corp.

X/Open Co supremo Geoff Morris says that X/Open is still a long way from building a test suite for applications that would prove conformance to XPG standards: "It's the complexity and scale of the problem. Testing for operating system interfaces is hard enough, but the interaction is predictable. From an applications standpoint it is much more complicated". X/Open is working with Japan's Joint System Development Corp standards group on a MITI funded project to develop test languages, which may bring them closer to this goal. Meanwhile, X/Open will incorporate the new APIs of the new OS/API initiative (UX No 452) into its VSX test suite, and will continue to control the testing process.

X/Open insists it hasn't been entirely taken over by the flood of COSE inspired initiatives it now seems to be guiding along, and hasn't increased staff despite what amounts to a tripled work load. "Our basic approach is to leverage existing resources", says Morris, saying that up to 70% of the work is carried out by sub-contractors or part timers culled from member companies.

X/Open still has two base funding sources: the fee from shareholders and the services and value-based funding, which now accounts for up to 40% of revenues, according to Morris. The latter includes licensing and projects such as COSE. X/Open is now a £9m company, said Morris. Vendors who brand their products OS/API-compliant (or whatever it's eventually called) will pay X/Open 0.1% of the total system price per sale.

X/Open has calculated that up to \$7,000m worth of procurements have referenced the X/Open specification to date, and says it will be increasing its efforts to promote the OS/API as a procurement standard over the next year. The figures involved are something Microsoft Corp will find increasingly hard to ignore, claims Morris.

IBM Corp has signed a joint development and marketing agreement with **Parametric Technology Corp** to port the Waltham, Massachusetts-based company's Pro/Engineer family of integrated three-dimensional computer-aided design and computer-aided manufacturing products to the RS/6000.

Auspex Systems Inc intends to release version 1.5.2 of its operating system in December. The Santa Clara, California-based firm claims the new software enables its NS 6000 NetServer to exceed 2,000 Ethernet Network File System operations per second. When tested using **Standard Performance Evaluation Corp's** System File Server Benchmark Suite software, the box achieved a throughput of 2,037 Ethernet SPECnfs_A93 operations per second, and an average NFS response time of 46.5 milliseconds while managing eight Ethernets.

MARKET ROUNDUP

Redondo Beach, California-based **Unisolutions Associates Inc** has introduced version 2.1 of Unisol Jobacct, its accounting and billing financial software for Unix. It supports OSF/Motif and Open Look interfaces and runs under Hewlett-Packard Co HP-UX, DEC Ultrix, SCO Unix and SunSoft Inc's Solaris 2.1. Available now, Unisol Jobacct is priced from \$1,600 to \$5,500. +44 542 0068.

El Segundo, California-based **Merisel Inc's** Unix Division has picked up distribution rights on 1776's Disk Array software.

Re/Max Mexico, a Mexico City-based division of the **Comercializadora Inmobiliaria Mexicana SA de CV** real estate franchising corporation in Guadalajara, has signed for 600 Sparc systems from **Sun Microsystems Inc**, worth \$4m.

Parent Safeguard Scientifics Inc is putting \$4m into the Angora Enterprise Gateway, **Rabbit Software's** next-generation connectivity software due in the third quarter.

Harris Corp's Computer Systems Division is to put **Applied Dynamics International Inc's** AD RTS real-time software development environment up on its real-time NightHawk boxes. Both firms will market the system, due in the third quarter.

Framingham, Massachusetts-based **Process Software Corp** is offering an NFS client for DEC's TCP/IP Services for OpenVMS (formerly UCX): prices go from \$400 to \$8,500.

NCR Corp has expanded the functionality of its StarSentry global network monitoring, administration and management software to oversee Unix systems from **Hewlett-Packard Co**, **IBM** and **Unisys Corp** via full-featured Computer Manager Agents. The stuff already supports systems from Sun, NCR and AT&T.

JetForm Corporation, a forms specialist, is moving its front-end data entry and mail-enabled forms software to X-Windows under OSF/Motif, beginning with the RS/6000. Its mail system will be consistent with HP Open Mail.

Univel Inc has authorised Chicago-based **LAN/mind Training and Consulting Services Inc** as one of its first user-oriented education centres for UnixWare. The operation reportedly does about 10% of Novell's training worldwide.

Link Technologies Inc has introduced two ASCII emulation terminals for IBM RS/6000 and AS/400 systems. The MC4 and MC4 LE run Xenix, Pick and Theos operating systems and cost £500 and £525 respectively. +1 510 623 6690.

Encore Computer Corp, Fort Lauderdale, Florida has teamed with **New Straits Times Technologies Pvt Ltd** of Kuala Lumpur, Malaysia to establish **Asia Pacific Encore Pvt Ltd**, and looks for it to generate \$55m of business over the next five years. The new company will sell Encore's Infinity 90 systems and its real-time products to distributors in South Korea, Taiwan, Hong Kong, China, Malaysia, Indonesia, Brunei and the Middle East.

Highland Software Inc has signed with the export management firm **Technology Latin America**, based in Bellevue, Washington to market FlexIm, its Flexible License Manager in Mexico, Brazil, Argentina and Venezuela.

UniPress Software is now peddling PC2X, new Unix-PC connectivity software that lets workstation users control PCs and their applications, including Windows, remotely from an X window on their Sun, HP, IBM, DEC box, or an X terminal. Several PC2X windows can be run at the same time, simultaneously accessing multiple PCs over TCP/IP or RS-232C lines and most network cards. A starter kit is \$700. Tera Technologies, meanwhile, has added remote Windows 3.x support to its Unix-to-PC gateway Network PC Access 2.0.

DEC UPGRADES FOR ALPHA/UNIX BOXES...

The rumor mill claims that Digital Equipment Corp will have a little announcement on Tuesday October 12 to wheel out upgrades to its Unix-based Alpha machines. Apparently, it is going to put a 200MHz Alpha in a new model 7000 series and claim 117 SPECint92 and 200 SPECfp92. It will also have a new model 4000 series with a reported 30% performance boost and OSF/1 version 2. That's after it demonstrates SMP on OSF/1 at Unix Expo next week.

...HAS NEW ALPHA ITERATIONS FOR PCI MACHINES, EMBEDDED MARKET

Meanwhile, Digital Equipment Corp last week released two enhanced versions of its existing 21064 Alpha AXP microprocessor that will take it into the volume personal computer and embedded markets. It also plans "a whole new Alpha chip" codenamed EV5, sometime next year. The enhanced DECchip 21066 - the EV45 (UX No 433) - incorporates 2.4m transistors compared with 1.8m on the 21064. It will initially run at up to 166MHz, although higher clock speeds are expected too. (The 21064 clocks between 150MHz and 200MHz). The 21066 also provides more libraries and more on-board cache. It also has an on-chip memory controller, phase-locked loop clock and graphics accelerator, but like its sister, the new 21068, is the first to incorporate Intel Corp's Peripheral Component Interconnect bus which enables Alpha machines to run Microsoft Corp's MS-DOS and Windows applications. The 21066 is targeted at the NT market, but will, in addition, run OSF/1, OpenVMS and DECelx. DEC says it could add Unix SVR4 to the list in future. The processor costs \$385 per 5,000-up, and although samples are available now, volume ships won't start until the first quarter of 1994. The 21068 chip is, conversely, aimed at high-end embedded control and laptop markets. It runs at 66MHz, includes all the on-board features of the 21066 - with which it is pin-compatible - and runs the same operating systems. This version costs \$221 per unit in quantities of \$5,000, and is available over the same timescale as its sister. The new Alpha, confusingly also known as 21066 internally, will be quite different from its predecessors. It will incorporate a process shrink from the existing standard .68 microns to .5 microns. It will have six pipelines instead of the current two, run at more than 300MHz, and be scalable from a laptop to a mainframe.

ADVANCED VISUAL ACQUIRES UNIRAS

It turns out that Waltham, Massachusetts-based Advanced Visual Systems Inc bought Danish graphics visualisation software house, Uniras AS, on Friday September 4 for an undisclosed sum in cash. No external financing was necessary. Uniras officially filed for bankruptcy (UX No 449), when its main financier and shareholder, Hafnia, a Danish financial services company, ran into money troubles and decided to divest itself of the firm. All Uniras subsidiaries continued to operate however, although senior management in Copenhagen left prior to takeover. While job losses resulted from the acquisition, all country and research and development managers kept their jobs. AVS said it decided to bid for Uniras because of the group's complementary product line, customer base and distribution channels. First, Uniras focuses on two-dimensional presentation graphics and visual data analysis software, while AVS specialises in interactive three-dimensional graphics and visualisation packages. Second, many of AVS's existing customers already use Uniras products, which AVS has pledged to continue selling, supporting and developing. Third, while AVS's distribution strategy has so far been focussed on the US market, Uniras does most of its business in Europe. AVS declared that the acquisition has doubled its turnover and the size of its installed customer base. Sales operations in France, Germany and Italy now operate as wholly-owned subsidiaries under the name AVS/Uniras. A new subsidiary in Copenhagen also uses the same tag, and will continue to undertake research and development work. In the UK and US, however, AVS and Uniras operations have merged to become part of AVS Inc and are managed from Waltham. AVS says it will initially sell Uniras products separate from its own, but will look at ways of integrating the two lines over the next year to two years.

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John Spiers, marketing director for Sybase Inc's northern Europe region, is heading an interim management committee whilst a replacement is sought for UK boss Vincent De Genarro who quit the company some weeks ago (UX No 447).

Veritas Software Corp has put its stripped-down VxMirror disk mirroring software on the Santa Cruz Operation's multiprocessing operating system, SCO MPX. It's available immediately for \$1,200. Compaq Computer Corp has also agreed to ship Veritas Volume Manager (VxVM) and VxMirror disk management products with SCO Unix starting later this year.

Aggregate Computing in Minneapolis has released a version of its intelligent compiling system NetMake, a distributed parallel version of the Unix mk utility, that supports Sun networks running both Solaris 1.x and 2.x. The thing compiles individual program modules in parallel on separate hosts, distributing the processing load across workstations and servers intelligently to decrease compile time.

Ingram Micro is to distribute NetFrame Systems' superservers targeting Unix network VARs and integrators.

Santa Cruz Operation Inc is kicking-off an aggressive new ad campaign for Open Servers and Open Desktop, claiming it's got 65% of the Unix-on-Intel Corp platform market, 7,000 applications, supports 420 systems and 1,160 peripherals.

Boston, Massachusetts-based AnyWare Associates has a new service that allows Internet mail users to send faxes directly from their terminals to anyone with a fax machine, whether they are on the net or not. FaxiNet converts e-mail messages to facsimile format and costs from \$20 to subscribe, plus a \$10 monthly maintenance charge - transmission charges go from \$0.50 per page. +1 617 522 8102 or sales@awa.com

Alcatel TITN Inc is to distribute Groupe Bull SA's OSI transaction processing software.

Helios Systems Inc, San Jose, California, is shipping Release 2.0 of its SBus fax/modem, HeliosCOM+, which includes multi-user network support: list price is \$1,000. +1 800 366 0283.

Consillium Inc, San Francisco, California, is putting its WorkStream Open factory floor control software up on DEC's OSF/1 implementation from early 1994.

Albuquerque, New Mexico-based Stone Design Inc will ship a new version of its Create drawing program for the NextStep operating system in October priced at from \$500. +1 505 345 4800.

Tandem Computers Inc's Ungermann-Bass is to extend its Virtual Network Architecture management application to encompass its HP OpenView-based NetDirector for Unix: prices will start at \$5,000 from early 1994. +1 408 987 6509

A department of the French Finance Ministry intends to replace its IBM Corp and Compagnie des Machines Bull SA mainframes with a client-server system based on Bull's DPC/20s and Hewlett-Packard Co's Emerald workstations, running SVR4. Computerwoche expects Informix Corp's database to be chosen over Oracle Corp's offering because software development could then be undertaken using the Windows version of Online 4GL.

Markham, Ontario-based PC X server supplier, Hummingbird Communications Ltd raised \$25m in its initial public offering: the firm sold 2.56m shares at \$16 Canadian dollars and is setting aside \$6m to expand its marketing operation, \$9m to acquire new products and \$5m to boost research and development. The firm's 1992 revenues of \$6.56m were up from \$1.68m in 1991, generating \$213,000 profits against \$81,000 Canadian last time.

Cray Research Inc's Superserver division is expected to debut its 16-way Sparc server system due in October as SuperDragon (UX No 450): it'll come with a low-end Sparc workstation for diagnostics and tuning and will ship in the first quarter.

Oracle UK's marketing director, Mike Evans, has now taken over from DHL's Ian Bengier as chairman of Uniforum UK.

Electronic News, that old industry warhorse, has changed hands again with International Data Group's Pat MacGovern, who didn't have it in his stable all that long, selling it to one of the paper's former publishers, Zach Dicker, who has formed International Publishing Corp. Reportedly the plan is to make it into a semiconductor book. The Unigram contingent is a beneficiary of all these goings-on. Stu Zipper, one of EN's star reporters and an 18-year veteran, has joined our sister publication, the "Unigram for NT," Client Server News. He can be reached in Denver at +1 303 759 9266

Neuron Data Inc has dropped all the runtime fees it charges on its products to eliminate barriers, it says, as corporates migrate to distributed client/server environments. It will sell a per-platform development kits for each of its Elements tools with unlimited deployment capabilities instead. Per-platform development kit now start at \$4,850, the company said, with porting kits needed to move from one platform to another beginning at \$4,000.

Amdahl Corp needs to name a general manager to run its open systems area.

Access Graphics Inc is going to distribute Adobe's graphics application software Illustrator 3.5 for Sun workstations and servers.

Sybase Inc will be using Clarify's Customer Service Management System to help automate their service and support in North America, Europe and Japan.

Bell Atlantic Business Systems Services is going to the service provider for Network Appliance Corporation's FAServer NFS file server appliances in the US.

Microlinea SA in Mexico City has become the first Mexican distributor of the Empress RDBMS and 4GL. The Mexican company is developing a payroll/employee records/administrative system for the country's national public school system.

KPMG Peat Marwick is going to be offering systems integration services focused on Nextstep. It plans to develop reusable object libraries for three vertical markets: telecommunications, healthcare and financial services. It starts training engineers on Nextstep this month.

Director of services and connectivity marketing AJ Brown has bolted Informix Software Inc to go to decision support house Red Brick Systems as vice president of marketing. The place has been swept clean of founders in recent months and has a new management team including ex-Tandemite Chris Ericsson as chief executive officer, ex-Metaphor Phil Fernandez in charge of engineering, ex KnowledgeWare Tom Henn as vice president, sales.

Omron Corp and its Far Eastern subsidiary Omron-Data General say they have begun marketing the Luna 2010, the second product to emerge from joint development with DG in the US (UX No 435). The DG/UX-based workstation has up to four Motorola Inc 88110 RISCs and is designed for CAD/CAM and factory automation.

Matsushita Electric Industrial Co has cut a preliminary OEM agreement with IBM Japan for PowerPC-based workstations which it will market under the Panasonic label. The company currently OEMs Sparc and Sparc clone workstations.

Don't look for any Precision Architecture RISC 7100LC Hummingbirds from Hewlett-Packard Co in November or before. In fact it'll probably be six months from now before a low-cost PA-RISC chip makes it into a product. The chip is done, taped out in February or March but HP has a bunch of products it could put it in and apparently hasn't made any decisions.

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NOVELL TO CROWN X/OPEN AS THE KEEPER OF UNIX...

If on-going negotiations hold true to course, Novell Inc chief executive Ray Noorda will probably stun the business world this week by announcing that he is "giving away" Unix, his recent \$320m purchase, to X/Open Co, the UK-based industry consortium which specifies open systems standards. X/Open will become responsible for the Unix specification, trademark and branding - not overnight, perhaps but over the next year or two. The drastic move, apparently decided on in the last few days and a closely guarded secret, indicates the lengths Noorda is willing to go to foil his arch-nemesis Bill Gates and the "evil" Microsoft Corp empire personified by Windows NT. It is Noorda's trump card to get the fractious computer industry to rally behind Unix and Novell's volume Unix strategy, to wit, UnixWare. A participant in the negotiations claims the move is a result of demands made on Novell by key Unix OEMs, particularly IBM Corp, Hewlett-Packard Co and Sun Microsystems Inc, and derives from their recent attempts to educate Noorda, a refugee from the proprietary camp, to the niceties of Unix and open systems. It is at least a halfway house between their reported desire for an equity interest in Unix (UX No 421) and Novell's attempts to retain control. By turning Unix over to X/Open and giving the industry-at-large - or at least some part of it - rather than a single company or an elite group of corporate stockholders a shot at determining its future direction, Noorda ultimately hopes to realize that long-sought but elusive dream of a unified Unix. Whilst Noorda, however, may still harbour vestiges of the notion of a single Unix but the vendors reportedly want only a single specification and multiple implementations to ensure the continued versatility of the operating system. Otherwise, one of them said, "we'd be better off picking up NT - it's a better system - but we're getting early indications that accounts are getting tired of being told what to do by the likes of Microsoft."

...SEEKS END TO GOVERNANCE ISSUES THAT DOMINATED UNIX WARS

The COSE companies - in this case the combined weight of IBM, HP and Sun - apparently realize that even they can't dominate Unix and there are reportedly moves afoot to set up a nimble broad-based organisation "with teeth" outside of X/Open to oversee fast-tracking the Unix specification. The issue of Unix governance has been a stumbling block to unity from the time five years ago when companies such as IBM, HP and Digital Equipment Corp felt compelled to break away from AT&T Co and set up the Open Software Foundation. It dogged and derailed all the benighted peace parleys that punctuated the prolonged Unix Wars. It forced AT&T to the half-measure of co-ownership with 13 minority investors and finally to the extreme of washing its hands of the whole affair. The munificent gesture with which he will be perhaps begrudgingly credited seems to be costing Noorda little. As it is now, Unix is unlikely to grow at a rate Novell is used to. Novell will apparently continue to draw the licence fees the OEMs still regard as too high. It will continue selling its core product, NetWare, hoping UnixWare drives it into environments it would not otherwise have breached. In addition, much of the future direction of Unix such as a microkernel release and the recently derived "1170 API" (UX No 451) has already been laid and will probably stay in place. Novell is also believed to be retaining the right of veto over the directional decisions made. Who actually gets to decide what goes into the future Unix development pot remains an open question, however. And, as Unigram went to press it was still unclear whether X/Open's rights would be perpetual. But if Unix hasn't scaled the heights in the next two or three years the fight could be over anyway, and it might not really matter who owns it. More details, page five.

USERS DEMAND WINDOWS INTEGRATION FOR COSE DESKTOP

"It's fine what COSE is doing, but we've got lots of [Windows] desktops which need administering, and the common desktop environment (CDE) doesn't do that." This was the message spelled out by half a dozen large open systems users at X/Open Co's CDE Requirements Topic Group meet in Houston last week. As an access point to infrastructure services, CDE is fine, but COSE's emphasis on look and feel misses other important requirements. Shell IC's Geoff Coupe says users are more interested in systems administration, and distributed computing and management services that work - and work in a similar fashion - across all machines, integrating, rather than obsoleting, their existing desktop environments, predominantly, Windows. Coupe hopes these "carrots" - plus users' investment and purchasing promises - will spur vendors to address these requirements. No actual products are specified: "it's up to them [the COSE developers] what technology solution they come up with to do it." Given COSE already has distributed computing and management initiatives underway, why not propel them to the fore as quickly and readily as the look and feel? asks Coupe. Furthermore, why, asks Coupe, should COSE expend energy on stuff like directory services, naming and security, when these kinds of projects are already underway at X/Open? Because COSE firms are committed to deliver their CDE offerings by the middle of next year, users, X/Open and COSE vendors accept there will be a mismatch between users' requirements, X/Open specifications and product implementations in the first iteration of CDE; "we just hope it won't be too big," says Coupe. All three probably won't come in line until the second bite at CDE. There is also an increasingly likely prospect that CDE products and applications up under CDE won't, as originally planned, all look and behave in the same way. Traditional look and feel rivalries are starting to creep back in, with some vendors planning to add extra push-pins and others already set to turn-off CDE's Hewlett-Packard Co VUE-derived control panel altogether. RTG will present its CDE requirements to X/Open's Xtra conference in Rome at the end of next month.

AMDAHL TO DUMP UTS

UNIX FOR MAINFRAME SOLARIS

Sun Microsystems Inc will stir up the Unix brew again by announcing on Tuesday that Amdahl Corp is to become a Solaris OEM. It's understood that Amdahl parent, Fujitsu Ltd, plus sister company ICL Plc won't be following in its footsteps. The move sets Sun on a course to challenge Novell Inc's UnixWare gambit and it will not be content with just the Amdahl deal. SunSoft recently set up a SWAT team to woo the top 20 Unix OEMs and the high-volume Intel Corp houses to Solaris (UX No 453). Amdahl, worried about Novell's focus on the desktop, will reportedly co-develop Solaris, adding the mainframe features currently found in UTS, its version of Unix, which it cannot economically sustain. These enhancements will return to Sun for incorporation into the generic version of Solaris, strengthening its offering at the high end. The changeover should reportedly begin in the second quarter with the release of Solaris 2.4, though Amdahl is expected to retain UTS for a while. It is also expected to sell SunServer 1000 and SparcCenter 2000 multiprocessors. As long as Amdahl's Solaris implementation conforms to the 1170 API (UX No 451), there should be no problem with the planned Fujitsu/ICL/Amdahl unified Unix environment (UX No 438).

COSE, MAC EMULATOR AND WABI UNDER IBM UNITY DESKTOP

Barred, it says, by fellow COSE founders - specifically Hewlett-Packard Co - from demonstrating its implementation of a fully-integrated COSE common desktop environment, IBM Corp was nevertheless giving sneak previews of CDE technologies running under version 1.0 of its Unity Desktop system at the Solutions Unix show in Paris last week. The problem, according to IBM, is that the COSE firms have been unable to agree on a policy for demonstrating the so-called "unifying" technology outside the confines of their own walls. If what our IBM demonstrator says is true - and the environment he was showing was hurriedly closed down when personnel from other COSE firms were in the vicinity - then what hope for the as-yet unsigned agreement for cross-licensing COSE environment components (UX No 451). Unity Desktop 1.0 is the HP Visual User Environment-based front-end of an early version of IBM's COSE implementation - the part it is allowed to show. Unity Desktop is IBM's a port of HP code, which typically takes between 20 and 30 seconds to boot up on most COSE vendor's systems, including full authentication procedures. COSE is hungry, however. The RS/6000 Model 370 wasn't able to do anything else whilst COSE was up - IBM had both Wabi, and its new Apple Macintosh emulator sitting underneath the desktop. Details on page five.

PRISM READIES OPENBASE OBJECT SYSTEM

UK software Start-up, Prism Technologies Ltd, Gateshead, Tyne & Wear, will launch a set of flagship OpenBase object-oriented products at London's ObjectWorld next month. These comprise OpenBase-ADE, or application development environment and OpenBase-SIP, or software integration platform, both of which are built around industry standards. SIP provides a run-time environment for objects and applications developed using OpenBase-ADE, and also manages complex heterogeneous environments seamlessly and transparently - it is based on the Open Software Foundation's Distributed Computing Environment standards. It is essentially the "guts of the platform inside the run-time part of the system", and comprises a number of layers that sit on top of the operating system - this must be Posix-compliant. OpenBase will initially support Digital Equipment Corp's Ultrix, but Prism also intends to port it to either Hewlett-Packard Co's HP/UX or Sun Microsystems Inc's Solaris operating system within a month of launch. A Unix SVR4 port should follow in about four to five months, with an AIX version arriving at some unspecified time in the future, but the Gateshead-based firm says it intends to hold off on Microsoft Corp's Windows NT for a while until it can gauge market interest. Prism said it will also develop specific data drivers for customers that want to use other operating systems, however, and is prepared to undertake systems integration work on a case-by-case basis. The second product, OpenBase-ADE, conversely, provides the user with computer-aided software engineering tools so that they can develop and use objects and applications in the SIP environment. These comprise a fourth generation language, the Class Definition Language and graphical tools to link objects together. CDL is essentially an extension of the Object Management Group's Common Object Request Broker Architecture Interface Definition Language, and enables users to build configurable objects. It generates C++ code, which is then recompiled to create OpenBase classes. The developer subsequently uses another fourth generation language, Environment Description Language, to configure the software applications and tell them in what type of environment they will be used. OpenBase uses OSF Motif as a front-end and supports Object Design Inc's ObjectStore database. Prism is also talking to Hewlett-Packard Co about using its OpenOBD database management system in the near future, but says it would consider using any object database adhering to the emerging ObjectSQL standard. Although no pricing has been decided yet, customers will have the option to buy either the development environment, or the run-time environment, or both.

Potential

Although OpenBase has been in development for the past three years, Prism only started trading in May 1992. The founders were formerly senior managers at DEC systems integration house, Integrated Automation Systems Ltd, which specialises in implementing automation systems in the process and discrete manufacturing industries - hence Prism's decision to port the product to the DEC Ultrix operating system first. Realising that a systems house was not the right environment "to realise the full potential of the development", the team decided to effect a management buyout, which was completed by May last year. This background means that Prism will initially focus its research and development as well as sales and marketing efforts on the manufacturing and oil industry, although it feels OpenBase has appeal across a wide range of market sectors, particularly finance. It is currently working with both universities and end-users to develop applications, intends to start writing its own applications in-house, and is currently working out value-added reseller agreements with various hardware vendors and systems houses. DEC and IBM Corp fall into the first category, while Sema Group and Logica Plc fall into the latter - Logica, along with others such as ICI and i2it, actually collaborated on the development of OpenBase from the early days.

INFORMATION BUILDERS OFFERS UP GATEWAY MIDDLEWARE AS PROOF OF ITS OPEN SYSTEMS INTENT

New York-based software house, Information Builders Inc, is trying to move away from its traditional image as an IBM Corp mainframe specialist to reposition itself as an "open systems"-based client-server company. To this end, it has launched the Adaptive Open Information, AOI, architecture - an extended version of its Enterprise Data Access/SQL middleware that sits above the network and operating system and provides a raft of gateways and external ports to both Information Builders own and other third party products. The firm has made its AOI application programming interfaces available to any interested parties. AOI comprises a five-tiered modular architecture that has been under development for the past three years. Each of the five tiers are claimed to be independent of the rest - this mix-and-match approach means that customers can swap their hardware and software components around in heterogeneous networks, under different client-server configurations, without affecting other parts of the system. The five tiers comprise a user interface layer, which supports both character and graphical front-ends, such as Microsoft Corp's Windows 3.0 and the Open Software Foundation's Motif; a user language, such as Information Builder's Focus fourth generation language, for accessing and manipulating applications and data; a communications or middleware layer, that handles protocols, packet transmission and compression; a data view tier that provides users with a generic view of enterprise data, mapping relationships and the like; and a database management system access layer. Information Builders eventually intends AOI to support up to 35 hardware environments and provide interfaces to 100 front-end products and 50 databases. It says it is currently about two-thirds of the way through this project, and will announce the availability of more interfaces in the fourth quarter of this year. The product is available now in Europe, but won't be announced in the US for another month. Pricing is dependent on configuration, but no details were available. Furthermore, the first quarter of 1994, should see announcements concerning a re-architected version of EDA/SQL, aimed at the workstation and desktop markets. Release 3, which is due to go into beta testing next year, should also ensure that users don't need to know where data is being held to access it. Finally, Information Builders has now ported its Focus fourth generation language to Digital Equipment Corp's Alpha AXP RISC and to Unix System Laboratories' Tuxedo System/T.

MKS SIGNS SOFTWARE IN FRANCE, EYES SIMILAR DEAL IN UK

Mortice Kern Systems Inc, Waterloo, Ontario, has signed Paris-based software distributor, Softway International SA, to market its packaged Unix utility products in France, and is seeking a similar mainline outlet in the UK. It is currently negotiating with Vistec Plc's Sphinx Level V Distribution and Frontline Distribution Ltd and says it'll have signed to one or the other by the end of the year. Existing distributors include Grey Matter Ltd, Systems FX Ltd and System Science Ltd. The firm is looking to boost its European sales revenue to 20% or 25% of turnover from the 15% at which it is currently stuck. The 85-person outfit is aiming for \$11m (Canadian) this year and looks towards an initial public offering in two or three years when it hopes to be well past the \$20m mark. It plans to develop more packaged products, as opposed to OEM-type offerings, including new versions of its RCS version control package, and will buy-in other software, such as a development toolkit. There is a Windows version of the RCS package in beta now.

HEWLETT-PACKARD LAUNCHES ENVIZEX MULTI-MEDIA X-STATIONS

Hewlett-Packard Co hopes to shake up the X-terminal industry this week with the launch of its highest powered models to date: the Envizex series of multi-media stations. HP was the one of the first systems vendor to launch X-terminals back in October 1989 (UX No 254), and has now taken over the market lead in both numbers and revenues from independent X-terminal pioneer Network Computing Devices Inc, according to X Business Group figures. Rated at above 165,000 Xstones, the systems include audio support, local scanner support and even an internal floppy drive for PC disks as an option. And HP claims to have knocked on the head the claims of the independents that system vendors always charge more, by pricing the systems below competitive offerings. HP compares its 19 inch colour Envizex Model 19Ca with NCD's 19c X-terminal, claiming twice the performance for \$4,695, or \$1,000 less than the NCD model. It's also \$800 less than Tektronix Inc's recently launched 150,000 Xstone XP358 Series X. HP offers multi-host X-server software on a single CD-ROM, supporting HP, Sun, IBM and SCO host operating systems, so that the stations will run easily on any of those hosts. The terminals come in two ranges: Accelerated, using the 28MHz Intel i960CF RISC chip and rated at 165,000 Xstones; and the mid-range Intermediate series, using the 25MHz i960CF and rated at 110,000 Xstones. They come with 15", 17" or 19" colour and 19" grayscale (Accelerated) or 14", 15" or 17" colour (Intermediate). Prices start at \$1,995 for the 14Ci Intermediate. There is a trade-in deal for 700/RX X users.

...ADDS NEW WORKSTATIONS, INDUSTRIAL PACKAGES

Hewlett-Packard has also launched two new workstations, the 715/75 and the 725/75, upgrading the current 715 and 725 Modles from 33MHz and 50MHz chips to the 75MHz 7100 PA-RISC. The systems outperform equivalent DEC Alpha boxes at a lower price, claims HP. Board upgrades are available. Prices start from \$15,395 for 32Mb memory and 525Mb disk. And the company has also launched a new range of industrial workstations: the 745i/100 and 747i/100 using the 100MHz 7100 chip.

VISIX LAUNCHES GALAXY 2.0

Visix Software Inc has been quiet of late, as it worked on the functionality of its Galaxy cross-platform development environment, first introduced rather tentatively a few years ago (UX No 356,392). With Release 2.0, due for release next month, Galaxy becomes available on Unix, Macintosh, Windows, NT, OS/2 and OpenVMS platforms, taking, like Neuron Data, a superset approach to multiple windowing systems rather than the "lowest common denominator" approach of some other multiple GUI systems. The whole applications development environment is portable, not just the graphics, and a communications infrastructure is in place to allow for the building of fully distributed applications. Database support is somewhat less advanced, but Visix says it has further announcements in the pipeline. It has assembled an impressive array of software houses who are using Galaxy to develop their products, including mainframe software houses Legent and Walker, both in the process of developing open systems products. Unify Corp is using Galaxy as the basis of its Peacock project (UX No 445), Software AG is carrying out further development of Natural using Galaxy, and Xerox Corp has also signed up. Systems management software start-up Open Vision Inc, Pleasanton, California (UX No 448), is also a customer. Next month Visix will also launch Galaxy/C++, a native implementation of the language around the Galaxy C Library ("not just a set of wrappers", says Visix Chairman and CEO Jay Wettlaufer) taking advantage of C++ features such as subclassing, overloading and inheritance. Meanwhile, Visix vice president of sales George Hoyem is in London setting up a direct presence for Visix in the UK.

SUN EYES NFS SERVER MARKET WITH SPARCLUSTER 1

Sun Microsystems Inc's hardware arm, Sun Microsystems Computer Corp, this week will announce the anticipated SunBox (UX No 429), now officially renamed the SparcCluster 1, the first network cluster for dedicated Network File System service. Sun will claim the system provides a significant performance improvement and better networking connectivity than the next closest system, Auspex Inc's NS 6000 NetServer, specifically, 50% faster and 110% cheaper at the top end based on a LADDIS price/performance metric. The new system, with a maximum of four nodes, it accommodates up to 500 users, 150Gb of external disk and a maximum 16 processors reportedly without degradation. It services up to 20 separate networks versus IBM Corp, Hewlett-Packard Co and Auspex at eight. It is said to deliver linear performance scalability: the high-end configuration being six times as powerful as the entry-level. Sun claims the system runs between 480 and 3,069 NFSops (NFS operations) with a 49.7-millisecond response. The SunBox is fitted with a new Optimised Network Throughput (ONT) technology, a hardware/software combination that provides quick response time, scalable throughput, aggressive network bandwidth and connectivity. It lets the clustered systems appear as a single system to the network clients, without changing the client software. The system is modular and field-expandable. A current SparcServer 10 can be upgraded to a SparcCluster 1. It comes standard with graphical user interface-based tools to provide centralised and remote system administration, performance monitoring and configuration management. All cluster nodes are installed and managed from a centralised cluster console administration tool. The SparcCluster 1, which ships next month, starts at \$85,000 with a year's warranty. It runs Solaris 2.2; 2.3 in a couple of months. The entry Model 2 price includes two SparcServer 10 Model 40s, a total of 8.4Gb disk, tape drives, Ethernet switch with six network expansion cards, console terminal server and the new SparcCluster 1.0 software. The unit can be upgraded with Model 51s, 512s and 514s. In tops out with the Model 4 including four SparcServer 10 Model 40s. Sun's roadmap starts with network or application clustering this year, adding a parallel database, high availability and shared disk next year and compute applications and high-speed interconnectivity in 1995. Thereafter it will move to application service, heterogeneous nodes, open interfaces and cluster application tools. It appears the SparcServer 1000 and SparcCenter 2000 will be clustered in future.

APPLIX JETTISONS ASTER*X NAME FOR "PC-LIKE" APPLIXWARE SET

Applix Inc, the developer of the Aster*x graphical office software range, has relaunched its products under the new name of Applixware. The company, which now claims to have some 200,000 users worldwide, has also updated the look of its software so that it is more familiar to users of PC-based products, and is positioning the range as "a set of adaptive, mail-enabled applications and tools". According to Applix, the new software is based on an information object architecture, with information objects defined as any data source relating to the desktop or the enterprise. These include applications, data sources, development tools, multi-media information, messaging APIs and external and personal business applications. The software is designed to provide the integration key to all of these objects. The software set consists of the ELF scripting language, Applix Data graphical front-end to SQL databases, plus Applix Word, Spreadsheet and Graphics applications. All are "mail-enabled" through Applix Mail, and the Hewlett-Packard's Open Mail X.400 system. Users can exchange and edit multi-media compound documents, messages and data files from applications or from the Applix Mail facility. Each application features live links with other components. Live-links with third party products can also be set up using ELF scripts. This means, for instance, that users can launch or link to other spreadsheet applications (such as Lotus or Excel) directly from Applix Spreadsheets or Applix Words applications. The company promises to add a graphical user interface builder to the set by the fourth quarter of this year, and is working on an NT version of the product set. Applix Words and Applix Graphics, a combined package including ELF, is sold in the UK for £495, and Applix Spreadsheets is sold for £395. Applix Data is sold at £995 per sheet, and sets of filter packs offering import/export options to third party products cost £125. Applix Mail costs £150, Open Mail £235.

SOLUTIONS UNIX

The Solutions Unix show took place in Paris last week - fast-growing UK exhibition organiser, **Blenheim Online**, which is based in Chiswick, West London, has successfully combined the event with Windows Europe, Telecom Network, Software Development and Sigid shows in one large IT jamboree at the Porte de Versailles complex.

Now up under Unix as well as VAX/VMS, Paris firm **Intellitic International SA** announced a version of its object-oriented Matisse - Multimedia Advanced Technology for Information Systems Semantic Engineering (and you thought it had something to do with the impressionist painter?) - database for **Hewlett-Packard Co** 9000 series systems. Already available on Sun Sparcstations and testing on the **Kendall Square Research Inc** parallel systems, Matisse is due on **IBM Corp** AIX systems and in Windows NT and Windows 3 client versions. +33 1 3014 5434.

A couple of French firms are now distributing the SuperSparc-compatible workstations, boards and memory products from **Hyundai Electronics America's Axil Workstations Inc** division, including those re-designed following Sun Microsystems Inc's lawsuit against it (UX No 453). **Additional Design SA** and **Spring Groupe SA's** Summer Systems are both in Paris, +33 1 6907 3028 and +33 1 4782 8807 respectively.

Krystal Ingeniere SA had Virginia-based **Template Software Inc's** Snap application development environment up under OSF Distributed Computing Environment on **IBM Corp RS/6000s**. +33 1 4671 0909.

Meanwhile, **Assistance Developpement Nouvelles Technologies**, ADNT, Paris, has a new Object SQL module for its Snapix 4GL graphical database application development system which runs under Motif on Sun Sparcstations and Unix SVR3.2-based systems, priced at from £3,000. +33 1 3920 1010.

Groupe Prologue SA, Paris, wheeled out version 2.0 of its Abal++ object-oriented development environment which runs on a variety of Unix flavours and also on Windows NT, MS-DOS and VMS. Version 2.0 comes with an Aplus class library generator and includes encapsulation, inheritance and persistence features. An SQL Open module connects with Informix, Oracle, Ingres and Skipper databases. Development systems are priced at from £3,200 on Unix, with ships due in November. Abal++ was spawned by Prologue's Abal development environment - the MS-DOS version of which can now be used to develop AS/400 applications over PCS/400 links.

Esker SA debuted version 6.1 of its Screener Unix development environment, which now includes support for X Windows, C, Cobol, SQL and Windows clients, and version 7.1 of its Tun MS-DOS and Windows-to-Unix connectivity system. The company claims 350 Screener and 50,000 Tun licences. +33 1 3956 5858 or +1 415 341 9065.

IBSI Groupe SA's recently-acquired **Dual** division released version 3.0 of its Applidial Motif and Windows 3-on-Unix application development system in client and server iterations. It runs in conjunction with Oracle, Sybase, Ingres and Informix databases. +33 1 4107 8900.

Boulogne integrator and distributor, **Axis Digital & Agix SA** is to market **Novell Inc** UnixWare on the Unix systems it supplies. The firm is also now selling **Tatung Co** Sparc-based TXT-5000 series X terminals. +33 4603 3775.

Paris firm **Axel SA** was lauding the merits of its new Plantine AX3000 model 50 character-based VGA colour terminal at the show, which includes built-in Ethernet for connectivity to SCO, Interactive and AIX Unix implementations. +33 1 6928 2727.

UK firm, **IXI Ltd**, had a new French language version of its X.desktop 3.5 interface up on Paris-based **Ariana SA's** stand at the show - a German language version will be out by year-end. +33 1 4772 0808.

RDI HAS MICROSPARC PORTABLES

RDI Computer Corp, San Diego, California, is adding a new family of PowerLite systems to its range of portable Sparc boxes. Using 50MHz microSparcs, they deliver up to 60 MIPS and come with up to 80Mb RAM and 1Gb disk, running Solaris 1.1C. It's offered with 640 x 480 or 1024 x 768 colour screens. PowerLite comes with Virtual Workgroup Architecture software - tools and applications for network administration, connection and fax management. A 640 x 480 PowerLite with 340Mb disk costs from \$10,000. PowerLite 1024 is \$16,000. Both ship in December. A peripheral expansion unit allows extra disk, Sbus slots or SCSI peripherals to be attached. With 450Mb disk and two Sbus slots it is \$3,000. A BriteLite LX portable with a new 1024 x 768 active colour matrix LCD screen 450Mb disk and 16Mb RAM is \$22,000 from next January.

NETSTOR ADDS HP UNIX VERSIONS OF ITS HIERARCHICAL STORAGE SOFTWARE

Minneapolis-based **NetStor Inc** will today unveil a version of its automated storage management software for Hewlett-Packard Co Unix platforms. The hierarchical storage management software - with optional remote network migration tools - comes with automatic file migration, library management and high-speed back-up. A version for HP 700 workstations is out in November - the server edition follows in early 1994. Prices start at \$7,500. Under an OEM arrangement, NetStor is also integrating its software with HP's OperationsCenter and OmniBack software, which HP will market as OpenView OmniStorage. +1 612 890 9376.

NEURON ADDS ONE MORE ELEMENT WITH GUI, OBJECT, RULES COMBO

Neuron Data Inc, currently filling in the gaps in its overall Elements architecture, announced earlier this year has launched Smart Elements, a combination of its established Open Interface graphical user interface builder with its Nextpert Object rules based scripting system. Before, developers had to link GUI, objects and rules by using C code - now it's point and click, says the company. Neuron's GUI provides a superset of all the major GUI capabilities and is portable between Macintosh, Unix and Windows machines. UK prices start from 5,000 for a developers licence, and look a lot more attractive to software developers since the company responded to user pressure and dropped its charge for runtime versions recently.

USL PACIFIC TO MEGRE INTO NOVELL KK - IN DUE COURSE

Novell Inc Unix System Group executives - including **Kanwal Rehki** and **Mike DeFazio** - were in Japan last week explaining the company's strategy and the future of the Unix System Labs Pacific (USLP) unit to its Novell KK subsidiary (and no doubt canvassing the support of Japanese firms for its plan to give Unix up to X/Open Co, see front page, at the same time). Alongside Novell itself, the Japanese subsidiary is 26% owned by Japanese software distributor, Softbank, and by Canon, Sony, Toshiba, Fujitsu and NEC which each have 4%. USLP will eventually be merged into the Novell KK operation in due course, although no timescale was offered. USL Europe has already made the transition into its respective Novell division. USLP president, **James Clarke**, has already been assigned a new position in Singapore and non-Japanese functions of the unit, such as the development of Chinese language versions of UnixWare and SVR4 have already been removed to other Novell subsidiaries.

UNIX "GIVEAWAY" IS SEPARATE FROM NOVELL'S UNIXWARE AMBITIONS

The announcement of the Unix "giveaway" - see front page - will be made at a specially convened Novell Inc-hosted Unix Strategy Event at the Equitable Center in New York City on Tuesday September 21 at 10:30 am and then again the next day during Noorda's one o'clock keynote speech at Unix Expo. The announcement is expected to draw support from the bulk of the industry including IBM Corp and Hewlett-Packard Co who, Novell people maintain, may even be enticed to throw in their lot with Novell's anti-Microsoft Unix-on-Intel desktop gambit with UnixWare, something Novell has been seeking (UX No 453). Sources claim however, that the X/Open Co initiative should not be confused with Novell's UnixWare agenda nor support for one be construed as support for both, an eventuality likely to happen. As we went to press, the slides for the announcement showing IBM, DEC and HP as UnixWare customers were reportedly being held back. Sun Microsystems Inc, which because of its own software aspirations in highly critical of UnixWare, said it will never pick up the stuff and neither will HP or IBM. Doubtless it says that because it has its own counter offers on the table to HP and IBM for Solaris x86. It may have trouble following through on at least the IBM deal because IBM wants lots of OSF Distributed Computing Environment. Sun and its SunSoft planet may, however, pay at least lip service to the Novell policies though Sun's strategy is overtly competitive to Novell (see front page).

IBM "MAC ON POWER" EMULATOR...

IBM Corp had Unity Desktop 1.0 up and running on both PowerPC and Rios-based RS/6000 machines at last week's Solutions Unix show in Paris, see front page. The PowerPC system - a 60 SPECint92 and 80 SPECfp92, 66MHz PowerStation 250 workstations that'll feature in IBM's Unix Expo announcement this week - was also running the SunSelect Windows-on-Unix Wabi system. Meanwhile, IBM's long-awaited Mac-under-AIX environment, details of which are also expected this week, was up on an RS/6000 Model 370. The Apple Macintosh emulation system - MacOS ported to the Rios RS/6000 and recompiled - will be running under AIX 3.2.5 ahead of the delayed PowerOpen environment, and has undergone a series of name changes within the organisation, including Power Mac, Mac on AIX and most recently, Mac on Power. What it'll eventually debut as, the IBM people were still in the dark. Although the emulator itself seems to work perfectly well - the user can bring up the Macintosh system and execute Mac applications and utilities in a single X Window as if he or she were sitting a very fast Apple computer - the environment we played with is currently only supported on host systems configured with Power 3GTi graphics adapter cards, and that means RS/6000 Rios systems, for now. AIX on PowerPC needs a new server extension for Mac, according to IBM, which will be included in the finished product, it assured us. Another feature not supported on initial versions of the environment, but being readied for product shipment, is the ability to see Macintosh files on the system from within Unix, and see Unix files as icons within MacOS. It's a feature that IBM expects Wabi to support too, in its product integration. IBM is also tinkering to iron out some minor colour-mapping inconsistencies, including loading some of those not already present. Currently the use of certain Mac applications generate a psychedelic riot of colour on the screen. Users will need at least an RS/6000 Model 360 to run the Mac emulator.

...WABI PERFORMANCE SCRUTINISED...

IBM was also demonstrating the performance of Wabi on PowerPC and Rios RS/6000s, in this case respectively a 66MHz PowerStation 250 - which is rated at 60 SPECint92 and 80 SPECfp92 - and a 62MHz Model 370, performing at 59.7 SPECint92 and 121.1 SPECfp92. Using Wabi's performance test suite, which compares Windows word processing, spreadsheet, CAD/Draw and Paint applications on the host Wabi/Unix system against a range of simulated Intel Corp 80286 and 80386 architectures - up to a 386DX machine with a standard VGA graphics card - each application appeared to perform at least three times faster on the PowerPC box than in the simulated environment. Performance of the applications on the 370 didn't meet the PowerPC's factored performance advantage, and in at least one instance - on the spreadsheet - was slower than a simulated 386DX system.

..."UNIVERSAL SYSTEM REQUIRED"

With Unity Desktop, COSE, Wabi and the Macintosh interface ranged alongside each other on RS/6000 systems, IBMers at the Paris show said they hope all the utilities will eventually be brought together under a single hood, a universal desktop environment for running Unix, Windows and Macintosh on a single system. Whether this can be achieved or not, the problem remains one of convincing people to put - and pay for - Unix on their desktops as opposed to Mac or Windows boxes.

NOW MOTOROLA'S OWN SYSTEMS GROUP CALLS A HALT ON THE 88000...

Motorola Inc's own Computer Systems division has finally admitted that the future of its parent company's 88000 Series RISC chip is limited - and says it is working on a new generation of systems using the joint Motorola/IBM PowerPC RISC. The news confirms the views expressed here and elsewhere from the moment the PowerPC alliance was first announced two years ago and Apple finally abandoned its 88000 plans (UX No 354). When the Ford Motor company also decided to use the PowerPC in place of the 88000 for its next generation engine controllers, all hopes of selling sufficient volume to support further development disappeared. Motorola Inc has for some time thought to have been putting pressure on its remaining customers to migrate to the PowerPC - the most significant of these being Data General Corp - and the fact that it has now let its own systems division come clean puts the pressure on DG to clarify its own position. Motorola Computer Systems has 601-based systems running now in its labs, but is more interested in the forthcoming 604 and 620 iterations. It says it won't move to the PowerPC until performance is comparable to the 88110, which still has some clock speed windings to come. The transition, according to Motorola Computer Group VP Karl Stoltze, will be eased by the similarities between the two architectures: the PowerPC has been called an 88000 with an IBM instruction set. "We are working on the operating system and software environment that will allow for a very easy transitional migration between the two", he said. Motorola plans to provide board-level PowerPC products designed as porting platforms "in the very near future", and its first machines could be out around this time next year. The move makes the future of standards group 88Open, already scaled back (UX No 430), look even more bleak. "They did a great job, but now it's basically done", said Motorola Inc vice president, Wayne Sennett.

...AS IT LAUNCHES SERIES 900

SNAP TOGETHER MODULAR SYSTEM

But there's life in the 88000 yet, and to prove it Motorola Computer Systems launched its expected new range of 88100 machines and board level products: the Series 900 systems, detailed last week (called in error the Series 9000 - UX No 453), and MVME197 family of single boards. The most striking thing about the new systems is their "snap together" modular design, very reminiscent of the Unisys Corp CTOS range, though far more sophisticated, according to Peter Alexander of Motorola UK distributor Landmark Computer Systems, Worthing, West Sussex. "The bus connection is a work of art, and it's taken them several years to get it right". Looking somewhat like a hi-fi stacking system, Series 900 configurations are built up from a CPU module and up to four modular SCSI devices per stack. They literally snap together with no screws or cabling to fiddle with. Users can upgrade their systems module by module. OEMs and distributors say the scheme could save them "hundreds of thousands of pounds in inventory costs. The systems currently use single or dual processor 88110 boards running at 50MHz, but plans a quad processor early next year. Clock speed boosts of between 20% and 25% are also in the pipeline. The same design will be used for the new line of PowerPC systems, said the company.

MARKET ROUNDUP

White Pine Software Inc, Nashua, New Hampshire, and **Visual Technology Inc** - what was left of the firm after Visual's hardware arm merged with French firm Gipsi SA - are merging, with White Pine's name surviving. Financial details were not disclosed. The deal will give White Pine access to Visual's embedded X, local clients and X Toolkit offerings plus the company's worldwide OEM (Wyse, Kubota, Intergraph and Memorex Telex) and distribution alliances, especially in Europe and the Far East.

Rational Inc has announced a Sparc version of its Rational Apex Ada application development environment, adding to its existing IBM RS/6000 iteration. It starts shipping this month at \$21,000 per license.

Former managing director of **Sybase Inc's** UK operation, Vincent de Gennaro, has turned up at London **Sun Microsystems Inc** reseller and software development house **MicroMUSE Ltd** as managing director. Chris Dawes remains as chairman.

Software AG's Adabas database management system is now available on **Siemens Nixdorf Informationssysteme AG** RM400 Unix workstations and RM600 servers. No prices were available.

Intel Japan has taken a major step with the appointment of its first Japanese representative president: Dr Ikuo Nishioka, currently executive vice-president, will replace Bill Howe, who has spent several years in Japan and will return to head office in a corporate strategic role. Dr Nishioka spent many years with **Sharp Corp** and joined Intel Japan in July 1992. Executive vice-president Nobuyuki Denda, who has been with Intel Japan since its foundation way back in 1971, will become representative vice-president of sales and marketing.

Bristol Technology Inc, Ridgefield, Connecticut, is now shipping its HyerHelp 3.0 standard general markup language compiler, prices start at \$5,000. +1 203 438 6869.

IBM Corp's Adstar storage unit is adding Sparc, HP-UX, NetWare and Paradox support to its VM and MVS mainframe-based ADMS distributed storage, backup, archiving and management software: the environment already supports a range of Unix, DOS and database architectures.

Digital Equipment Corp's massively parallel partner, **MasPar Computer Corp** is porting its software development tools to DEC's Alpha AXP RISC.

OpenVision, Pleasanton, California, has joined X/Open's Common Desktop Environment Group - currently evaluating the COSE interface of the same name (UX No 445).

Bull UK and Ireland chief, George McNeil, has been appointed president and CEO of Bull Europe, which includes all Bull's European units except France.

Dallas, Texas-based **E-Systems's** Emass storage unit says it has a commercial patent for technology that can store from 5 Terabytes to 10,000 Terabytes of data. The patent was filed back in November 1989 and covers the architecture through which hardware and software is integrated into a system. It covers E-Systems' 6 Terabyte Data Tower and 10,000 Terabyte DataLibrary, the technology that drives the 15Mb per second ER90 tape drive and D2 data cassettes.

Input-output controller board manufacturer, **Digiboard Inc**, Eden Prairie, Minnesota, has a new diagnostics software package, Port Authority, enabling systems integrators to monitor, in real-time, the performance of all Digiboard serial ports on their systems - including ports at remote sites. Port Authority is bundled free of charge with its Unix device drivers.

NCR Corp has bought **PeopleSoft Inc's** client-server financial applications suite, PeopleSoft Financials, to use at its US sales, marketing and service operations. It has also purchased a worldwide license for the Walnut Creek, California-based firm's Human Resource Management System.

San Jose, California-based **National Information Systems Inc** is now shipping Accent STP, its XView- and OLIT (Open Look basic toolkit)-to-Motif source code translator which it claims will translate between 85% and 100% of C source code produced by Xview, OLIT and DevGuide where there are equivalent paradigms offered in Motif: Accent STP starts at \$5,000. +1 408 985 7100.

Liant Software Corp has upgraded its LPI-Fortran compiler to include optimisation for Intel Corp's Pentium: Liant says applications compiled with version 3.6 will run up to 30% faster on Pentium - they'll run 20% quicker on the 80486 too. The new release, which comes with an enhanced LPI-C compiler and CodeWatch debugger starts at \$1,300 for Unix System V.3 or SVR4.

Waltham, Massachusetts-based **Kendall Square Research Inc** has been signed to a partnership agreement by the University of Toronto, under which the Canadian college will buy a KSR1 parallel system and Kendall Square will provide a series of research grants for students and faculty at the university to do work on the system, although the type of research was not specified; the machine, to go in this month, is Kendall Square's first in Canada.

Menlo Park, California-based **Cisco Systems Inc** has entered a strategic partnership with **Novell Inc** to ensure integration of routers with Novell's NetWare products to benefit their growing base of mutual customers in large companies. Under the agreement, Novell will certify that Cisco routers support all necessary IPX router functions, while Cisco will implement Novell's NetWare Link Services Protocol to improve internetwork performance, starting sometime next year; the two companies also will work together to ensure that Cisco routers will support IPXWAN to provide seamless interoperability of PIX across wide-area network media.

Compagnie des Machines Bull SA will increasingly be concentrating on the integration and services market said its new chairman and chief executive Bernard Pache at the EURE European Technology Roundtable Exhibition conference in Barcelona a couple of weeks ago. Gone is the determination to be a machine builder - "we are now definitely an integrator of technologies and a builder of systems" he said in a keynote address given a day late because of a prior appointment with his Prime Minister. A good idea if he can make the transition, was the feeling on the floor, especially as Pache is looking to the French public sector, always a soft touch.

John Gage, director of **Sun Microsystems Inc's** science office on **Microsoft Corp's** new-found interest in communications - which culminated in the Redmond raiders trying very hard indeed to buy the Provo, Utah NetWare company on more than one occasion: "There would be no Novell if Bill Gates had spent 15 minutes thinking about networking".

IBM Corp's Power Personal Systems division has been relatively quiet since its creation in July and its president, Nobuo Mii, was adamant that the division is not in competition with IBM's Intel Corp machines - it will concentrate exclusively on the high-end image processing and multimedia type of applications he said. It is a long term, strategic business, whose motto seems to be "the Intel architecture can't last forever".

Mentor Graphics Inc has decided to use **Scopus Technology's** defect management and customer support software ProTeam company-wide for its 800 engineers and support people. It also plans to add Scopus' call tracking stuff soon.

Object World Boston is set for January 10-13 at the Hynes Auditorium. The agenda calls for a focus on "how-to" apply object-oriented technology.

MasPar Computer Corp has picked up **Teradata's** former president and chief executive Kenneth Simonds as its vice chairman. He is also on the board.

Uniforum has added Hugh Brownstone, vice president, technical research and development at IMS America, and Steve Zalewski, director, Unix marketing at Oracle, to its 10-member board serving two-year terms.

They're expecting to preview 22 new processors, some described for the first time, at the sixth annual Microprocessor Forum, set for October 18-20 at the Hyatt Regency Hotel at the San Francisco Airport. Key parts include the **ARM7**, **Hitachi's** embedded PA-RISC, **Cyril's** M1 superscalar x86, **AMD's** Elan and the **PowerPC 603**. Registration is \$995 with discounts available. +1 707 824 4004

ATRIUM DEBUTS SYSTEM ADMIN AND GATEWAY TOOLBOX

This week at Unix Expo, Austin, Texas-based Atrium Technologies, founded by Bob Fabbio who also started Tivoli Systems Inc, will bring out its Distributed Access Control Manager (DACM) graphical system administration tool and its Lpr Gateway product. The latter provides a seamless means of sharing Unix-based print and fax resources with a range of network environments (mainframes, OS/2, NetWare and DOS/Windows) via TCP/IP and exploits the company's DCE-based Dazel delivery product. Pricing starts at \$25,000. Its DACM tool offers systems administrators who need to manage DEC users, groups, hierarchies, passwords and privileged information a graphical user interface involving canned dialogues. It complements DCE's security services and offers an alternative to developing separate Access Control Language (ACL) Managers for each DCE application service deployed. A 20-user configuration is \$3,000. DACM System Administration Tools are \$3,500 and developer kits are \$4,500. Atrium will also unveil its RS/6000 AIX version of Dazel, a DCE-based distributed software application that assists in delivering information within Unix networked environments. Based on an enhanced version of Palladium, the de facto distributed printing system standard, it automatically delivers data to network resources such as printers, faxes, e-mail, electronic notices and pagers from any workstation on the network. It is already shipping on the Sparc platform with SunOS 4.1.3 and Transarc DCE 1.0.2. On IBM, available next month, it needs AIX 3.2.3 and DCE 1.0.2. Client machines need 24MB RAM and a 50MB disk and server should have 32MB RAM and a 100MB disk. A basic 20-user license goes for \$19,400.

BANYAN INVESTS \$500,000 IN LEGATO TO SEAL ENTERPRISE BACK-UP DEAL

Westborough, Massachusetts-based Banyan Systems Inc has paid \$500,000 for an undisclosed stake in Legato Systems Inc to seal a partnership to provide enterprise storage management. The planned offering will combine Legato's expertise in data back-up and restore and Unix technology with Banyan's enterprise networking technology. The first product, Enterprise Backup & Restore, due mid-1994, will enable users to back up their entire enterprise network to a single central location and to manage it from any location throughout the network, and Banyan says it will be fully integrated with its core network services including StreetTalk.

HEWLETT-PACKARD OPTICAL OEM ORDER FROM IBZ DIGITAL

Hewlett-Packard Co has won an OEM agreement with IBZ Digital Production AG of Frankfurt, under which it will supply IBZ with its family of optical-disk libraries and disk mechanisms. IBZ manufactures a complete line of hierarchical storage management systems for SunOS, Domain/OS, HP-UX and Solaris Unix systems, including optical library storage and software for network-wide back-up, archive and file migration, extending the disk storage of workstations and servers in heterogeneous networks of systems by up to 200Gb. IBZ specialises in systems based on optical disks and auto-changer technology for use with Unix systems; terms were not given.

STRATUS ACQUIRES SHARED FINANCIAL

Stratus Computer Inc, attempting to expand beyond its current product base, last week said it had a definitive agreement to acquire 11-year-old Dallas-based Shared Financial Systems Inc for around \$15m cash. The deal is expected to close next month and the unit will be run as a Stratus subsidiary. Shares provides vertical software and professional services to the financial services, retail and health-care industries in 46 countries. It includes electronic payment systems, electronic funds transfer networks, prescription claims authorisations, electronic medical claims and an OLTP development environment. Shared's products include the ON/2 line of applications for Stratus VOS-based boxes and middleware-based Unix ON/X software for FTX-based systems.

INGRES OFFERS DATA REPLICATION SYSTEM

Ingres Corp has introduced Ingres/Replicator, a database server that allows organisations to distribute, copy and maintain data in multiple locations by replicating the information. Ingres/Replicator incorporates a master/slave architecture. The master or central database server stores the original information and its duplicate is the slave. There can be more than one slave in the architecture, but the first slave is responsible for propagating the rest of the databases operating in a local area network. In the past, organisations have used two phase commit database technology to distribute information. "Two phase commit is basically an all or nothing scenario, data has to be replicated and distributed in a synchronised format and on a time basis. This reduces information availability and can prove expensive," says Ingres' UK product engineering manager, Ian Howells. For example, when updates occur to a table in a database the entire table has to be replicated and distributed to different databases on the network. However, in a replication architecture users are able to replicate and deploy just the data that has been updated. Other Ingres/Replicator features include data integrity, which ensures data replication only takes place after a transaction has committed locally and in entirety; and fault-tolerance, which allows users to switch to any other database automatically if a database fails. The database is currently in beta test and will be available in 90 days. Ingres/Replicator supports all ASK Group development tools, as well as Ingres third party tools. It also supports Non-Ingres databases including IBM's DB/2 and IMS, DEC's RMS and Rdb databases and Hewlett-Packard Co's Allbase.

WIX AIMS TO PUT X WINDOWS APPLICATIONS UP ON CHARACTER TERMINALS

Dickens Data Systems Inc, Qume Peripherals Corp and Sherwood are forming The Windowing Interface Xchange (WIX) association this week. Their aim is to define protocols that will allow users to get existing X Windows applications within their organisation up on serially-connected, character-based systems without the expense of having to buy new equipment and Ethernet cabling. WIX says its protocol allows both the X Windows client and server to run on the host, rather than requiring the X server to run on the desktop. WIX says there are already ASCII/ANSI terminals which conform to the standard and can run X applications whilst being connected to a multi-user host via a serial line rather than via Ethernet cabling that such a configuration would usually require. Qume says its QX15 terminal is already WIX-compliant. Associate WIX membership costs \$1,000 a year - voting membership is \$3,000. Executive director is Dickens Data product manager, Barry Hogwood. +1 404 475 8860.

...AS COMPONENT INTEGRATION LABS SEEKS DESKTOP APPLICATION INTEROPERABILITY

And yet another industry club was announced last week: the Component Integration Laboratories brings together Apple Computer Inc, IBM Corp, Novell Inc, Oracle Systems Corp, Taligent Inc and WordPerfect Corp - and Xerox Corp is in there somewhere - to create a common framework for interoperability between applications on all desktop systems. According to Apple, the purpose is to establish, promote and certify specifications and reference implementations of key technologies that integrate information and media from many applications within a networked environment. The lab intends to develop certification processes for software products that conform to its specifications and documentation, as well as training for developers that want to use the technologies.

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One of the originators of the recently unveiled Unix OS/API describes it as a way of cutting a real deal and coming to any substantive accommodation. "It doesn't change anything," he said. It just "sweeps" everything that exists indiscriminately into one place. He compared it to Posix.

Digital Equipment Corp - in the person of its Components and Peripheral Business Unit vice president Larry Cabrinety - is reportedly coming to Unix Expo this week to announce a new line of OEM-only terminals.

The seventh annual Usenix System Administration Conference is set for November 1-5 in Monterey, California.

Sunnyvale, California-based **Woodside Technologies Inc** has upgraded its Fortress system security software adding cryptographically secure RSA MD4 and MD5 file inoculation, a first in a commercial Unix product, plus support for Motif and Open Look interfaces and a directory-tree database editor to simplify the task of selecting files for security protection. It works on Sparc SunOS 4.1.x and IBM AIX machines with Solaris and HP-UX versions due by the end of the year.

Hewlett-Packard Co is going to embed Ilog's Views C++ library of reusable and extensible graphical objects and behaviour into future releases of SoftBench, its C/C++ CASE toolset and integration framework. Under a multi-year agreement, HP's Software Engineering Systems Division will use Ilog Views on a division-wide basis to develop SoftBench applications.

Its eye on the competition, **Unidata Inc** has agreed to provide SB+, System Builder USA's flagship 4GL and application development environment as its 4GL toolkit integrated to its relational database.

OpenVision Inc, the Pleasanton, California-based systems management start-up, has picked up its first outside board member, Jeanne Wohlers, Sybase Inc's former chief financial officer.

Tokyo firm **Astec** is now offering a Japanese version of **Visual Edge Software Inc's** UIM/X 2.5 graphical user interface builder on Solaris - it has sold 100 copies of UIM/X 2.0 on SunOS systems.

There's a little noticed NetWare client in the "1170 API" and NetWare hooks reportedly all over the place.

NCR Corp will this week unveil new version of its LifeKeeper FRS Cluster high availability software with a distributed lock manager that allows it to be used in conjunction with NCR System 300 clusters running **Oracle Corp's** Parallel Server implementation in Oracle7. On two-to-four CPU 3400 and 3500 systems, prices go from \$9,000 to \$40,000 per system. NCR is also to offer Tone Software Corp's data centre management software on its System 3000 platforms.

UniPress Software Inc, Edison, New Jersey, will launch version 2.0 of UK firm **Unipalm Ltd's** Mail-it Windows interface to the Internet at Unix Expo. It includes support for multimedia internet mail extension and simple and extended Microsoft messaging API for Windows. Prices start at \$400 for five users. UniPress will also have a new version of its source code manager package, which now includes support for X Windows and a modification request system. Prices start at \$800 for a single licence.

Sparcette Integrix Inc, Newbury Park, California, will be releasing the first of its new SXT series of Sbus graphics boards this week, beginning with the \$795 SXT100, a low-cost single-slot VESA-compliant colour frame buffer with optional keyboard and mouse. With it, it says, a Sparcstation 10 can be configured as a server supporting up to six monitors, an alternative to X terminals. To accommodate six cards, Integrix is pushing its SEC160 expansion chassis. The boards support monitors from 1034 x 768 to 1152 x 900 resolutions. The monitors can be up to 1,000 feet away from the main system unit.

Legent Corp will this week announce details of a new relationship it is forging with **Hewlett-Packard Co**. It is understood to have a new framework based upon the **Visix Software Inc** Galaxy application development environment - which it licensed last year - for managing HP's Unix systems.

SunSelect will today unveil a "golden master" version of Wabi 1.0 to its OEMs - who include **IBM, HP, SunSoft** and **Novell's Unix Systems Group** - that will enable them to ship productised implementations by the end of the year. How many Windows applications will actually run out of the box remains to be seen given that Object Linking & Embedding is missing from the initial version.

Sandra Kurtzig is off again, and this time it looks as if it is for good: the **Ask Group Inc** founder and chairman said she is retiring from the company effective immediately. She handed over the chief executive post to Pier Carlo Falotti last year. No new chairman has been named. Ms Kurtzig, 46, says she will pursue personal interests and work with boards on which she sits.

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ColorSoft, a two-year-old La Jolla, California company, has introduced a printer support and image editing package called OpenPrint for Sparc, HP 9000/700 and RS/6000. Silicon Graphics and DEC workstations will be added later this year. The products offer the concept of global printing. Lp or lpr commands can be used to generically print raster images, HPGL, text and Postscript files to virtually any printer, the company says.

It looks like **Sun Microsystems Inc** chief executive officer, Scott McNealy, is to be presented with the World Trade Club's International Achievement Award.

The group of companies the **Novell Inc** was originally supposed to buy Unix System Labs for reportedly included not only **IBM Corp**, but also **Hewlett-Packard Co** and **Sun Microsystems Inc**. That was supposed to happen to stop HP, IBM and SunSoft from going off together and forming a Universal Unix Company to compete head-to-head against **Unix System Laboratories**. Outsiders say Sun's reportedly not that ticked off that Novell picked the thing up for itself but IBM and HP sure are.

SunSoft Inc claims it shipped 10,000 copies of its Unix-on-Intel product Solaris x86 in June, the first month it was available. Reports however say it's having a tough slog.

Insiders say **IBM Corp** Personal Software Products chief, Lee Reising, is scathing of Advanced Workstation Division boss Bill Filip's involvement in COSE: Big Blue's old school says you should own your own products - like OS/2.

Insignia Solutions Inc this week will start showing off its SoftWindows stuff which it says is pretty complete though it's still tuning for performance. First release is expected in December on Solaris and HP-UX. It has Microsoft Corp Windows underneath. Six months later it'll come out with Phase 2, including enhanced mode and the Red Baron technology from **Bristol Technology Inc**, an application programming interface-based tool kit to speed performance.

IBM France hasn't released several packaged configurations of existing RS/6000s - those designated by a T after the model number - and says it is therefore unlikely that users in France will get a sniff of the PowerStation 25T PowerPC system due this week (UX No 453).

X Business Group figures show that the ratio of X-terminal versus workstation seats is inexorably changing in favour of X-terminals. In 1990, the ratio was 84% workstations to 15% terminals, rising to 72%-27% in 1992. In 1994, the group predicts, the ratio will be 59% to 40%, and will hit 52% workstations to 48% terminals in 1996.

The **Burlington Coat Factory** and the UK's **Trafalgar House Group** are the joint winners of this year's International Award for Excellence in Open Systems, to be presented at Unix Expo.

Following on from its Series 900 launch last week, **Motorola Computer Systems** is thought to be readying an additional fault-tolerant systems range for announcement in October.

With Unix going to **X/Open Co**, there remains the issue of what to do with **Unix International** and the **Open Software Foundation**, apparently a matter of considerable debate. There is talk - and since it's not decided yet hardly gospel - that UI could become a UnixWare user group and OSF's specification functions separated from its development practices.

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UNIX SPEC SHROUDED IN SMOKE AND MIRRORS

Novell Inc last week failed to deliver on a premature promise to turn the Unix brand and specification over to the X/Open Co standards body (UX No 454). It did, however, indicate its resolve to do so as quickly as possible, without publicly naming X/Open as the recipient. The non-event turned Novell's packed Tuesday strategy briefing and its Unix Expo keynote into a rather juiceless recap of how it will integrate NetWare and UnixWare and make UnixWare a volume player. The setback was apparently due to Novell's inability to close the loop in time to make the announcement with either X/Open or the Unix vendors with whom it has been in discussions, namely Sun Microsystems Inc, IBM Corp and Hewlett-Packard Co. Novell, however, including chief executive Ray Noorda, privately sought to lay the blame elsewhere, labelling SunSoft Inc president Ed Zander the spoiler. "We were working through the issues from A to Z and when we got to Z," Noorda said meaning Zander, "we started having trouble." IBM and HP were cast as meekly following Sun's lead and preferring to act in concert. Novell says Zander rehashed issues that were resolved three months ago and complained about the "unfair advantage" Novell had in the use of the UnixWare name, objecting to Novell's notion that both the source and binary should be called the same thing. (Truth be told, this whole flap and the spin-doctoring that has followed in its wake has created an enormous amount of confusion in the industry right now, leaving a lot of people wondering what the heck is going on.) Zander, in disbelief over his own alleged clout, vehemently denied he acted the heavy, claiming it is a cagey attempt by a wily Novell to divide and conquer the tightly bound COSE group that the Big Three started back in March. He said Ray Noorda himself actually called the thing off for lack of time during a conference call on Monday September 20, the day before it was to be made public. He also claimed that Novell didn't need the Big Three's backing to make the announcement and could have gone ahead with it anyway, while at the same time noting a need for consensus among the power brokers. Novell, for its part, claimed the deal was all locked up and signed off on by everyone concerned until Friday September 17 (ironically the day Unigram broke the story), when Zander told a conference call that he "needed more time," hung up the phone and became unavailable for the rest of the day and the ensuing weekend - even to Noorda who was reportedly called in to intervene. Zander says that this is patently untrue. There were no calls placed over the weekend and everyone on the Friday call including HP's Workstation Systems Group general manager Gary Eichhorn and IBM's Advanced Workstations & Systems Division president Bill Filip were equally obstreperous and concerned over the issues still left unresolved. Other parties in the discussions, although denied by Zander, say the nub of the matter rests with Novell trying to get as much of NetWare as it can into the specification. (Zander says they can't do it because the spec is the 1170 API plus CDE.)

Other issues

There are numerous other issues on the periphery. There was, for instance, nothing in writing with X/Open, and there remain questions over how the trademark will be funded, who will ante up and how much, what will constitute "Unix," who owns what where and similar issues of intellectual property, Novell's proposed three-year veto rights, and how they would square with X/Open's charter, the extent to which X/Open's prized vendor-independent/platform-independent charter would have to be rewritten to accommodate the new mission, points of international law, Novell's demand for free membership and whether the Unix trademark, which some claim AT&T policed badly, would prove too difficult to manage. X/Open member companies, which expressed concern over how X/Open's technical staff - already stretched to cover COSE and the 1170 API - will be allocated, also say the organisation's ISV and user groups don't want X/Open to get involved. They also indicate that some of the 14 X/Open member companies might find the prospect equally unappetising. Novell executives are adamant that the deal will be done and executive vice president Kanwal Rehki, head of the new Unix Systems Group, said an announcement won't wait more than another two weeks. In fact, it was possible that a statement could have been made on Friday, September 24 as we were going to press, following a morning conference call. (Unlikely, some say, too embarrassing so close to the might-have-been date.) Zander, who was travelling last week and finally arrived at Unix Expo, an additional demand on everyone's time, said he was unaware the call was scheduled and would be on an airplane. Noorda's executive team last week were practically unanimous in advising him to go ahead with the announcement anyway. He resisted the temptation at the Tuesday briefing session, where 19 representatives from supporting companies were reportedly supposed to gather on stage with him and were warned off at the last minute. He did answer a direct question from the press rather sketchily albeit affirmatively saying he was in charge of "obfuscation." The next day at the Unix Expo keynote, Unix Systems Group marketing vice president, Bob Davis, who gave most of the speech in Noorda's place went further, but still only offered a rough outline. The third-party organisation that inherits the Unix brand does not necessarily have to be X/Open, Novell people said, and if its conditions prove overbearing some other entity will be formed or selected. Unix International is believed to be anxious for the job but past associations may rule it out. More details, page seven.

MICROSOFT DECLARES NETWORK WAR

Microsoft Corp realises that the war between NT and Unix is to be fought to the death now that Novell Inc is the keeper of Unix and both sides last week mobilised the attractions of free software to win adherents to their camp. Microsoft has cancelled the client charge for Windows NT Advanced Server, making it dramatically cheaper than Novell's NetWare, and from the Unix camp, Sun Microsystems Inc offering its Wabi Windows-under-Unix emulator free of charge with Solaris Unix for its own Sparc machines and with Solaris for Intel Corp iAPX-86 until the end of the year, rather than making it a separately-charged item - see page two. With Windows NT Advanced Server, Microsoft has been charging a flat fee of \$1,500 for the server end, plus up to \$180 for every five client systems attached, be they MS-DOS, Windows, OS/2 or NT clients. By cancelling the client charges, Microsoft is effectively giving a huge discount for builders of large networks - the *Wall Street Journal* points out that Novell charges as much as \$48,000 for NetWare 4.0 for the server and 1,000 clients; under the previous Microsoft regime, that would have cost \$36,500. Now it will be just \$1,500. Once the introductory offer ends in November, the server price rises to \$3,000, with unlimited clients free. Microsoft has long had designs on the network operating system market, and five years ago vowed to eat into Novell's 70% market share. Five years later, Novell still has 70%.

IBM POWERPCs, POWER2s

IBM Corp announced its first PowerPC-based RS/6000s at Unix Expo in New York last week, saying it will expand the line "from palmtops to teraflops". Big Blue has four new workstation and server models based on the entry level PowerPC 601 microprocessor as well as three high-end machines using its own Power2 - a new 8-chip uniprocessor implementation of the Power RISC architecture. All will run the new version of AIX - 3.2.5 - which is due to be released on October 15. A raft of new and enhanced client-server and multimedia software will soon be available too as will a new X-terminal and graphics adaptors. Details on pages four and five.

SUNSOFT OFFERS SOLARIS 2.3 WITH FREE COPY OF WABI SOFTWARE

SunSoft Inc last week announced version 2.3 of its Solaris Unix implementation for Sparc systems, which will include a free copy of the SunSelect Windows-on-Unix Wabi software emulator, Adobe Systems Inc Display PostScript level 2, C2 security, Network File System 3.0, X Windows X11R5, enhanced multiprocessing features - including support for up to 20 CPUs against 12 under Solaris 2.2 - and performance tuned for both multiprocessor and uniprocessor architectures. Solaris 2.3, which ships next month, also fixes some of the bugs still associated with Solaris 2.x - in printing for example - which it is hoped will encourage more ISVs to move their applications up to Solaris 2.x from Solaris 1.x (SunOS 4.x). To get Wabi - which ships in November and is clearly being offered to try and tempt more users to move on to the Solaris 2.x environment - Solaris customers have to send off a coupon they'll receive on purchase of the operating system. If there is sufficient demand, SunSoft will bundle Wabi with Solaris - it won't initially because it has to pay sister company SunSelect for every copy of Wabi it sends out. Solaris 2.3 supports the Open Look graphical user interface, even though Sun has said it will migrate to Motif - that's not expected to become standard until around the middle of next year. Instead, and until then, Sun offers the IXI Ltd Motif toolkit and other third party tools, which allow users to convert Open Look applications to run under Motif. The new Solaris does not include support for the NeWS Network Extensible Windowing System, although NeWS applications will be able to run under Display PostScript. Solaris 2.3 now includes support for Latin American Spanish in addition to German, French, Italian, Swedish, Japanese, Korean and two versions of Chinese. Existing Solaris prices - \$880 for the desktop, \$2,000 for WorkGroup Server and \$6,000 for Enterprise Server - remain in place. SunSoft's versions of Solaris for Sparc and for Intel Corp iAPX-86 environments aren't expected to converge until sometime next year. Sun claims to have sold some 180,000 copies of Solaris 2.x environments, most are not new Sun operating system licences. Over 70% of Sun's users are still with Solaris 1.x (SunOS 4.x) implementations, including the company itself, which says it'll move its internal operations over to the latest available version of Solaris 2 during the next six to nine months.

TIVOLI OFFERS VERSION 1.6 OF MANAGEMENT FRAMEWORK

Tivoli Systems Inc, Austin, Texas, has stepped up to release version 1.6 of its Tivoli Management Environment, which is out on Sun and HP workstations - IBM RS/6000 and Solaris 2.3 implementations follow in December. TME 1.6 includes Tivoli/Print for managing distributed print tasks services from a graphical interface environment and an automatic mail alias management feature for TME's Tivoli/Works core. TME 1.6 prices go from \$925 for each management station implementation and \$625 for each managed client. Meanwhile, Tivoli has signed a bunch of new users for TME, including GTE Telephone Operations and Motorola Inc's general systems sector, whilst AT&T CommVault Systems Inc is putting its CommVault data management software up on TME.

IST X-DESIGNER 3 INCLUDES OPEN LOOK-TO-MOTIF CONVERSION

London-based Imperial Software Technology Ltd of Reading, Berks, claims to be the first software house to offer a graphical user interface builder that has Open Look to Motif conversion in-built. X-Designer Release 3 allows Sun users who have created applications using Sun's DevGuide Open Look GUI builder to convert their application interfaces to Motif. Existing X-Designer users can get the facility, an add-on program that converts the .g files used by DevGuide into X-Designer .xd files, free of charge. Initial conversion "takes a few seconds", says the company. Once converted, .xd files can be loaded into X-Designer to display the Motif interfaces for adjustment and polishing, before generating the interface code in C, C++ or UIL. It is available immediately on SunOS 4 and Solaris 2 for Sparc. IST's managing director Derek Lambert says that there are many large companies half way through Open Look developments who now need to move over to Motif, especially if they are wanting to use mixed workstation environments.

SNI TO DO MIPS REFERENCE PORT OF ENCINA

Transarc Corp has signed Siemens Nixdorf Informationssysteme AG to provide a Mips Technologies Inc reference port of its Encina on-line transaction processing monitor. SNI is porting Encina to its Sinix Unix SVR4 implementation which runs on the Intel Corp and Mips Technologies Inc Unix boxes it manufactures. Encina is based upon the Open Software Foundation's Distributed Computing Environment - SNI was responsible for the SVR4 implementation of that technology. Encina will be available from SNI in the second quarter of next year. Presumably it is being offered alongside - rather than instead of - SNI's existing UTM transaction processing monitor. Originally developed for its BS2000 mainframe systems, SNI moved UTM on to Sinix, and has recently expended considerable effort getting the environment up on HP, IBM and Silicon Graphics Unix boxes.

ROUNDUP

NobleNet Inc, Southboro, Massachusetts, launched its RPCware middleware tool at Unix Expo show: it is a compiler that generates client and server code for remote procedure calls (RPCs) which can be compiled as NetWare Loadable Modules, DOS/Windows Dynamic Link Libraries and UnixWare C language executables. NobleNet supports Novell's transport independent RPC for both SPX/IPX and TCP/IP protocols, backward compatible with Sun's RPC for NFS.

Four Seasons Software, Edison, New Jersey, the developer of the SuperNova 4GL, says it is the first software vendor to ship a product which provides access to IBM's DB2/6000 database from non-IBM clients. SuperNova can be used to build Motif applications that will run on DB2/6000, and can build the client portion of a client/server application that interacts with a DB2/6000 database server. The company also introduced 4S-Report for DB2/6000, said to be the first report generator for the database, supporting Motif and MS-Windows on Unix, DOS and VMS platforms.

New York-based Jyacc Inc has launched JAM version 6, which it says is a complete re-write of its application development toolset. It now supports visual programming, repository-driven development, object-orientation and transaction processing, says the company. It's out in the first quarter of next year for Windows, Motif and character-based platforms, with Macintosh and NT ready by the second quarter of next year.

Paragon Imaging Inc, Chelmsford, Massachusetts, has acquired the Slate product line from Cambridge, Massachusetts-based Bolt, Beranek and Newman Inc. The agreement transfers to Paragon all product rights and support of the 3,000 strong user customer base. Slate, a document creation and communication system for technical and business workgroups, will be renamed desktopSlate and currently runs on Sun, IBM, HP and DEC platforms.

Purify, the run-time error checker for C and C++ code developed by Pure Software Inc, Sunnyvale, California, has been integrated with Hewlett-Packard Co's SoftBench development environment. A port to Sun's Solaris 2.x operating system is also now available.

Mobius Computer Corp has introduced new Intel-based systems pre-configured with Sun's Solaris operating system. The Protege CX systems are half the price and twice the performance of similarly configured Sun SparcClassic LX systems, claims the company, and include Mobius' CX family of graphics accelerators. UnixWare, SCO Open Desktop and Interactive Unix options are also available. A Protege P466icx with 66MHzDX2 80486, 16Mb memory (expandable to 128Mb), floppy, 245Mb hard disk, Solaris and 1024 x 768 screen costs \$3,500. Mobius is based in Pleasanton, California.

The Mips ABI group has introduced version 1.1 of its Mips application binary interface guide. Version 1.1 includes X Windows R115 and OSF Motif 1.2 - the reference platform is Silicon Graphics Inc Irix 5.1 Unix SVR4 implementation.

Nashua, New Hampshire-based Open Software Associates Inc has introduced version 2.1 of its OpenUI which enables users to develop Macintosh, Windows, Presentation Manager or Motif versions of their applications.

Software Partners/32 Inc, Topsfield, Massachusetts, has released StorageCenter storage management software, which supports a range of tape and optical devices on Unix workstations. +1 508 887 649.

NETWARE AND UNIXWARE "A MATCHED PAIR" - INTEGRATION DUE MID-1994

Novell Inc is pushing ahead with its plans to integrate NetWare and UnixWare, according to Unix System Group vice president of marketing Bob Davis at Unix Expo last week. One in three of all NetWare sites will have Unix attached by next year, he said, positioning Unix and NetWare as "a matched pair": NetWare for networking services and UnixWare as an applications engine. Connectivity between the two environments had already been solved, said Davis. The next steps are to integrate services such as the global directory and messaging, and establish common network management between the two. By the middle of next year, he said, Novell will be offering NetWare for Unix as source code embedded within UnixWare, giving access to NetWare directory services from within Unix. Mapping between the NetWare directory services database and Unix will also appear then, the goal being seamless interaction with the Unix/NetWare network from a single consul, said Davis. An integrated network management umbrella for both environments, including software licence management and software distribution will also be included. AppWare will provide a common set of application programming interfaces for software development. Novell was demonstrating an early version of UnixWare with symmetrical multi-processing support at Unix Expo, which is also expected to emerge mid-next year. Davis said that from the fourth quarter of this year, Novell would be providing complete ready-to-ship product source code identical to its own UnixWare product, meaning that OEMs would no longer have to "polish off" Unix source into production ready code, said Davis. This of course only applies to Unix on Intel Corp platforms, where Novell's ambitions to ship Unix in volume are focused. Companies such as Compaq, ICL, NEC, Olivetti, Sequent, Toshiba, Unisys and Wyse are among the UnixWare supporters club. For other architectures, Novell says it will work with the industry to provide reference platforms of UnixWare. NetWare 5.0 has been touted as a vehicle for the NetWare and UnixWare convergence.

POWERPCs "WILL RUN 50,000 APPLICATIONS"

At the launch of its PowerPC family last week, IBM Corp confirmed its intention to offer Apple Computer Inc Macintosh and Microsoft Corp Windows applications on the RS/6000, and to integrate the Common Desktop Environment into enhanced versions of AIX next year (UX No 454). However, it hasn't yet decided whether to offer CDE and other front-end components as a packaged solution or modules. IBM says the idea behind its new PowerPC-based systems is not to create the fastest machines on the market, but to enable customers to use existing applications as if they were running in their native environment. When the Windows and Macintosh emulators arrive, IBM claims it will be able to support some 50,000 packages: 30,000 MS-DOS, 10,000 AIX, 5,000 Macintosh and 5,000 Windows. It also intends to supply either a Win32s or Win32c interface as part of the planned extensions to Wabi sometime next year, and has expended considerable computing resources polishing its emulation technology.

AMDAHL TO OEM SOLARIS AND SUN SERVERS

As expected (UX No 454), Sun Microsystems Inc last week won mainframe supplier Amdahl Corp as an OEM for its Solaris Unix operating system. Amdahl and Sun's SunSoft Inc software unit will add extensions derived from Amdahl's UTS mainframe Unix to the Solaris Enterprise Server system and will work on unbundled security, on-line and distributed management technologies. As part of the deal, which will eventually see a mainframe Solaris replace UTS, Amdahl is also to begin reselling Sun's SparcCenter 2000 and SparcServer 1000 systems immediately. First enhancements to Solaris are expected to find their way into version 2.4 of the SunSoft operating system, due in the second quarter of next year. It seems likely that the environment will be up on Amdahl's own range of Sparc-based workgroup and enterprise servers that the company is expected to detail by the end of this year. Furthermore, Amdahl president, Joe Zemke, said the agreement with Sun would not jeopardise its recently announced plan to develop a common Unix operating system environment with sister company ICL Plc and parent Fujitsu Ltd, which he described as having a much more long term focus. SunSoft still hopes to pick up Amdahl's relatives as Solaris OEMs - part of Sun's ongoing challenge to Novell Inc's UnixWare gambit - Fujitsu already supplies Solaris on its Sun-built S-Family workstations and its own Sparc boxes, and the two agreed sometime ago to accelerate interoperability between Solaris and Fujitsu's UXP/DS Unix implementation. Sun would also like to snare Amdahl sister company ICL Plc for Solaris, something that it's been trying to achieve for ages, says president Scott McNealy. He claims "ICL would save a great deal of money," if it took Solaris, but still regards itself as a European provider of value-added Unix system software.

TANDEM TO OEM SILICON GRAPHICS BOXES - OFFERS R4000 INTEGRITY SYSTEMS

Fault tolerant system builder, Tandem Computers Inc, Cupertino, California, is expanding its family of fault-tolerant Unix offerings with new additions to its Integrity FT series of Mips Technologies Inc RISC-based systems - the first to use the 50MHz R4000SC RISC. It has also signed to OEM Silicon Graphics Inc's Mips-based symmetric multiprocessing Challenge servers and Indigo and Iris workstations. The new Integrity models are the CO-1450, which has been tailored for telecomms customers, and the CM-1450, aimed at other commercial applications. Both come with from 32Mb to 192Mb memory, a range of disk options starting at 4Gb, and are effectively R4000 upgrades to Tandem's existing R3000A CO-1300 and CM-1300 machines and are priced at from \$270,000. As with the rest of the Integrity line, fault-tolerance is achieved by replicating hardware system components in triplicate. Tandem has also added R3000A-based models to its low-end S series - eliminating the S100 and S200 in the process. The S300 comes with 32Mb RAM as standard, whilst the S300E can be expanded to 128Mb - both start at around \$100,000. The new systems each run Tandem's NonStop-UX fault-tolerant Unix SVR4 implementation. Tandem has also teamed with Mips parent Silicon Graphics Inc, and will be offering the Mountain View, California-based firm's high-end R4400-based Challenge series of symmetric multiprocessors, which scale to 36 CPUs, as its Integrity NR (Network Resource) series, running SGI's Irix 5.x Unix. Tandem has pledged to add high-availability features to the systems. It will also market SGI Indigo and Iris workstations under the Silicon Graphics brand name. NR servers are priced at from \$22,000 - workstations go from \$5,600.

...PLANS SMP INTEGRITY BOX, MERGED ARCHITECTURE...

Tandem plans to converge its Himalaya and Cyclone fault-tolerant lines - which run the firm's proprietary Non-Stop Kernel and Guardian operating systems - with the Non-Stop Unix Integrity architecture over time. It says it'll meld the loosely-coupled CPU architecture of the Himalaya and Cyclone systems into some, but not all, future Integrity offerings. Before that, the company plans a symmetric multiprocessor which will eventually use Mip's next-generation T5 RISC iteration and run Non-Stop Unix or Non-Stop Kernel. That system is some 18 months away, and part of a reported \$300m project given to the Integrity design team to develop fault-tolerant SMP specifically for its lucrative telecomms customers. Tandem will use the Unix SVR4 microkernel technology derived from its relationship with Chorus Systemes SA to develop a version of Non-Stop Unix with Non-Stop Kernel fault-tolerant fundamentals built-in. The company also plans to use higher clock-rate versions - up to 200MHz - of the Mips R4000 architecture.

...SEES BIGGER ROLE FOR UNIX BUSINESS

Tandem's director of Unix marketing, Floyd Hale, expects revenues from sales for the firm's Integrity series to show an increase of 114% over 1992, when its 1993 figures are broken out at the end of September. Hale expects that figure to rise further next year, when numbers from sales of the new Integrity and SGI-derived systems will kick-in. Telecomms customers account for 35% of Tandem's Unix business, messaging 15%, network management 4% and others, including manufacturing, finance and retail, 46%. Bucking the current trend, Hale says he'd prefer to see Novell Inc retain control of the Unix trademark and specifications, saying it would make him feel uncomfortable if Novell started giving Unix away to others. The Unix business is some 12% of Tandem's overall revenues at the moment, which Hale would like to see rise to at least 22% by the end of 1994. The company expects to have shipped between 500 and 600 fault-tolerant Unix systems by the end of this year.

IBM's POWERPC BLITZ

By Cath Everett

PowerPC and Power2 systems

IBM Corp opened a new front in the low-end Unix desktop market last week, when it released a raft of PowerPC-based RS/6000s and related products at Unix Expo in New York. It also added mid-range and high-end models based on its new Power2 or RIOS2 chipset to the family, but is intent on pursuing a strategy of "world domination" that will result in machines scaling from "palmtops to teraflops".

PowerPC 601 boxes

IBM claims its new PowerPC-based desktop RS/6000s offer customers functionality, ranging from two-dimensional graphics to multimedia, all from the same computer they use to do their everyday tasks. Furthermore, it attests, the new machines provide more than twice the performance at the same price as the existing 230 series, the prices of which will now be reduced. The new PowerPC family comprises an unconfigured base 250 system unit at £4,333; a PowerStation 25W workstation without a monitor at £5,502; a Powerstation 25T workstation plus monitor at £7,014; and a PowerServer 25S server that supports up to 100 users at £7,087. Each of the machines has 16Mb of RAM, a 2Gb internal disk expandable to 30Gb of total storage. They all run the new version of AIX - 3.2.5 - and are compatible with existing RS/6000 product lines, which means that current applications don't need to be recompiled to run on them. First comes the base PowerStation or PowerServer 250 - this can be configured to meet individual customer needs. Next are the 25T and 25Ws - fully configured entry-level graphics workstations, aimed at such markets as mechanical and electrical computer-aided design and desktop publishing. Both support the newly announced Softgraphics program, which implements IBM's first software version of Silicon Graphics Inc's OpenGL three-dimensional de facto standard for graphics, plus PEX and PHIGS. This means that customers can develop and port OpenGL applications as well as run entry-level three-dimensional graphics, such as mechanical computer-aided design. The 25T also incorporates IBM's new Power GXT 150 graphics accelerator and has a Powerdisplay 17 monitor, while the 25W sports a Power GXT 100 accelerator. Finally comes the PowerServer 25S, an entry-level server, aimed at retail or small business. This includes an 8 port RS-232 adapter, which can connect to ASCII terminals and other RS-232 devices. Each of the above products will be available as of October 15.

Architecture

The PowerPC 601 is the first member of the PowerPC family of RISC uniprocessors that IBM jointly developed with Motorola Inc and Apple Computer Inc. Big Blue describes it as "RIOS1 plus a Motorola 610 bus" - and says it called its Austin development site Somerset because it was in this English county that King Arthur brought his warring knights together. There are currently four design teams at Somerset, which comprise about 50% IBMers and 50% Motorola staff. About eight Apple employees are involved too. One team is working on the PowerPC 603 chip for battery-operated notebooks and laptops - the design of which was completed two weeks ago, and since went into manufacture; another is focussing on the 604 processor for mid-range desktop and entry-level servers, which IBM says offers between two and three times the performance of the 601; a third is concentrating on the "flagship" 620 64-bit high-end chip for technical and commercial workstations and servers - the 604 and 620 designs should be finished by the end of this year or the start of next; and the last is engaged in designing "the next generation" of Power3 processors. An embedded processor is also in the pipeline for use in consumer products, such as video players, camcorders and cellphones. Each of the chips is based on a common design model.

Production

The 601 chip went into volume production about two weeks ago and is currently being manufactured only by IBM Microelectronics in Burlington, Massachusetts. Motorola will also get involved with forthcoming offerings, but the two companies may well charge different rates depending on the volumes they can sell. The 601 runs at 66MHz, and like the others mentioned above, is based on IBM's Performance Optimization with Enhanced RISC - or POWER - architecture. It has 2.8m transistors, incorporates fixed and floating point execution units, a branch unit and 32Kb of cache memory. Although faster versions of the 601 will be released in due course, the processor will eventually be phased out and replaced with the others as they become available. It will be sold direct, via US distributors such as Bell Industries Inc and Marshall Industries, through IBM Design Centers and field application engineers.

World Domination

IBM declares it is intent on "world domination" of the chip market by the end of the century, and so will make the new processors available to other computer manufacturers on the open market to encourage take-up in as many areas as possible. Compaq Computer Corp is already thought to be testing PowerPC 601-based personal computers: IBM expects announcements by the end of this year or during the first quarter of 1994. It promises to release a "System Reference Platform" specification for designing architecturally-compliant hardware, and says it will provide interested parties with support chips, processor boards, subsystems, memory, VRAM and the like. Big Blue is trying to make it "cheap and easy for third parties to port" to the new chips by supplying them with tools - it claims it has already signed up more than 40 independent software vendors to this end via the PowerOpen Association as well as 11 Macintosh vendors including Microsoft Corp, Aldus Corp and Adobe Systems Inc. IBM wants all of the major 32-bit operating systems ported to the PowerPC - those currently committed comprise AIX, Apple System 7, Sun Microsystems Inc's Solaris, Taligent and WPOS - and eventually to migrate to 64-bit operating systems. The new release of OS/2 - version 3.0 - should also be included on the compliancy list during the first half of next year.

Power2

At the high-end, Big Blue has introduced three new machines, based on its Power2 8-chip uniprocessor, which is said to provide comparable performance to a supercomputer - in fact, because the US Department of Commerce has classified the new boxes as supercomputers, they are required to carry a special export licence. The £61,373 - and 58H - £75,641 - both due for release on October 22; and the Powerserver 990, available from October 29 at £120,578. The 58H is a midrange deskside system, based on a 55MHz version of Power2, while the 590 is described as "the highest performing RS/6000 deskside system ever" and incorporates a 66MHz processor. Each has 64Mb of memory, 2Gb of disk, 256Kb of data cache, 32Kb of instruction cache, and a CD-ROM drive. They are targeted at users wanting to replace their mainframes with minicomputers or distributed database servers, running general business and commercial applications, and are also suitable for engineers and scientists needing three-dimensional workstations. Existing Powerstation/Powerserver 570 customers can upgrade to either machines, although current 580 users can only upgrade to the 590. The Powerserver 990, conversely, is rack-mounted and based on a 71.5MHZ Power2 chip, which IBM claims is the highest performing uniprocessor in the industry - the chip originally ran at 66MHz, but Big Blue turned the clock speed up. It is aimed at technical customers in areas such as analytical simulation, where number-crunching capabilities are needed and runs at 131Mflops - compared with the previous top-end RS/6000s at 38 MFLOPS, and Digital Equipment Corp's Alpha at 42 MFLOPS. The Powerserver 990 comes with 256Kb of data cache, a 32 Kb instruction cache, 128Mb of memory, 4Gb of disk, a CD-ROM drive and battery back-up. Performance can be further enhanced using IBM's new High Availability Cluster Multiprocessing/6000 software, which enables users to cluster up to four machines together. All existing 900 series users can upgrade to the new machine.

POWER2

By Cath Everett

High-end market

The Power2 - formerly known as RIOS2 - is aimed at the high-end scientific supercomputer market, and according to IBM outperforms rival Digital Equipment Corp's Alpha chip - Power2 is said to achieve 120 specint compared with the Alpha's 107. In fact, it at-tests, the Power2 offers performance akin to a supercomputer, but at one-tenth of the cost. It can undertake half a billion operations per second and provides nearly double the integer and floating point performance of the Power or RIOS1 processor. Power2 comprises eight-chips mounted on a multi-chip module. These consist of one instruction cache, one fixed point, containing two fixed-point units, one floating point, containing two floating point units, four data cache units and one storage cache unit. The processor will be used in high-end RS/6000s and AS/400s in future. To ensure that customers buy such products, IBM will provide an upgrade path from its model 500 and 900 deskside and rack-mounted servers. No pricing or availability dates were given.

Software

All the new hardware - binary-compatible with past releases - will run existing applications under a new AIX 3.2.5 release, of DASD, and will be released on October 15 starting at which is priced at from £650 on October 15. To make the transition to future versions easier, 3.2.5 includes a Preventive Maintenance Package, which enables customers to selectively install any subsequent code changes. Enhancements have also been made to TCP/IP, IBM's Virtual Memory Manager, Logical Volume Manager, and InfoExplorer on-line information system. And a new Visual Systems Manager, which customers will get separately, but for free, on February 25 1994, provides an icon-based interface for systems management.

Direction

IBM Corp says it intends to build the broadest product line in the industry based on a common architecture, and to emphasise the point, declares it will make two or three product announcements a year on boxes spanning from the low to the high-end, almost simultaneously. While it will continue to sell RIOS1-based machines, it will build no new models, and will instead double the performance of its uniprocessor family every 12 to 18 months.

Boxes

The first new boxes to appear in the wake of last week's announcement will be a new range of "Power Personal" systems, including portables, desktops, and the notebook IBM is jointly developing with Tadpole Technology Plc. The latter will run at 50MHz, have 64Mb of RAM, two PCMCIA slots, a SCSI interface and an external battery pack lasting four hours. It will support ISDN, Appletalk and Ethernet and weigh five and a half pounds. These products will be available from the first quarter of 1994, and are targeted at the low cost, high volume market as an "alternative" not a "replacement" to Intel Corp personal computers - the Power Personal Systems division is responsible for all such offerings. The Advanced Workstations and Systems division, conversely, looks after mid-range systems, and it is here that the work with Compagnie des Machines Bull SA on a symmetric multiprocessing machine is being carried out. This should be available by mid-1994, and will typically be between four and eight way. Initially costing between \$20,000 and \$150,000, IBM also eventually intends to link SMP machines together to form a distributed cluster. Next on the power scale come systems that have a shared memory cluster. These are aimed at IBM's current mainframe users and will be developed out of its existing Power4 four way Unix mainframe. Power 4's have been adopted by about 40 IBM customers for experimental purposes, and will not be made commercially available. The SMC systems will typically be eight way or more and will start shipping from mid-1994, either as standalone units or coupled to primarily MVS-based mainframes. They will cost between \$100,000 and \$1m, and will emerge as the first members of the Power Parallel family, jointly developed by IBM's AdvancedWorkstation unit and its Enterprise Systems division.

Scalable Parallel Systems

The two are also working on a scalable parallel system, based on Big Blue's high-availability SP1 supercomputer, which was announced in February this year (UX No 422) and released September 17. IBM says the idea behind such a machine was to drive down the cost of mainframes. SP1 will initially be aimed at the technical and scientific market, and between 60% and 70% of early users are found in either research laboratories or universities - the rest come from the gas and oil industry. The machine currently has more than 60 parallel and serial applications either written for it or in development. But, IBM intends to try and move into the commercial market with its new parallel machine, and so is currently working with such vendors as Oracle Corp and Sybase Inc to develop suitable applications. SP1 sports between eight and 64 RIOS1 processors and offers performance of between one and eight gigaflops. During the first half of next year though, customers will be able to upgrade to the Power2 chip, which IBM claims will approximately double SP1's peak performance. The new scalable parallel system, conversely, will have hundreds of processors, run both serial and parallel applications under a single system image, and be scalable from gigaflops to teraflops. It will be available sometime either in 1995 or 1996, costing between \$200,000 and \$10m.

Aix 4.0

Beyond AIX 3.2.5, IBM plans to introduce a PowerOpen-compliant AIX 4.0 in the first quarter of 1994 based upon the symmetric multiprocessing kernel being developed in conjunction with Compagnie des Machines Bull SA. The system software will have 64-bit addressing and be compatible with all existing 32-bit applications. The kernel will be adjusted to make it suitable for parallel systems. Multimedia and object extensions will be added in subsequent releases as the result of Big Blue's work with Apple Computer Corp on the Kaleida and Taligent projects respectively. Taligent may eventually replace AIX as IBM's base Unix operating system. The group also expects the first PowerOpen application binary interface-compliant software to be available by the end of the year.

AXIL DEBUTS HYPERSPARC SYSTEMS

Hyundai Electronic America Inc's Axil Workstation unit has announced the first in a series of new workstations based on Sparc designer and marketer, Ross Technology Inc's hyperSparc multiprocessing microprocessor modules. The first model to go into production, the Axil-311 Model h66.4, sports four 66MHz hyperSparcs, supports symmetric multiprocessing and multiple threads, and runs Sun Microsystems Inc's Solaris 2.x. It has a Spec multiprocessing throughput rating of 5006SPECrate-mean, and should be available in volume by the middle of the fourth quarter. No pricing was given. Axil simultaneously announced its first desktop or deskside server. The Axil-311 Server is a Sparcstation 10-compatible machine, supports between one and four 50MHz SuperSparc chips, and is targeted at workgroups and departments. It runs Solaris 2.x, has a total disk storage of 29.9Gb, and should be available from December. Although Axil only sells its products via resellers, it expects end-users to pay between \$15,000 and \$20,000 for a base system.

FUJI XEROX, SUN THROW IN THE TOWEL ON UNISOL VENTURE, SELL TO ISLAND GRAPHICS

The Unisol software venture between Fuji Xerox Co and Sun Microsystems Inc, which has been a developer and distributor of Island Graphic Inc's Unix business applications, has been acquired by the San Rafael, California company for between \$1.9m and \$2.8m. Unisol was set up in 1989, with the propose of selling Unix business applications, but it has never turned a profit, and has been hit particularly hard by the current recession, with its revenue last financial year being around \$4.8m.

INSIGNIA SOLUTIONS UNVEILS SOFTWINDOWS EMULATOR

Insignia Solutions Ltd, Chalfont St Giles, Buckinghamshire with a US base in Mountain View, has launched SoftWindows for Unix, its emulator designed to give Unix workstation users the ability to run virtually any Microsoft Corp Windows application or utility at 80486 performance levels on alien hardware. SoftWindows offers full MS-DOS and Windows compatibility and built-in network support, Insignia says, supporting personal computer peripherals such as COM and LPT ports, floppy drives, memory systems, displays, networks and CD-ROMs. Insignia has source code and a distribution licence for the Windows operating system from Microsoft, and complete licensed copies of Windows 3.1 and MS-DOS form integral parts of SoftWindows. It ships in December at \$550 for a single-user licence. Subsequent releases include technology jointly developed with Bristol Technology Inc for faster performance and new interface options that support the host system's native look and feel. Versions are planned for Macintosh, Hewlett-Packard Co, Digital Equipment Corp, IBM Corp NeXT Computer Inc and Sun Microsystems Inc boxes.

SENSE8 PUTS VIRTUAL REALITY ON KUBOTA KENAI WORKSTATION

Sense8 Corp, Sausalito, California-based provider of virtual reality development tools, has put its WorldToolKit up on Kubota Pacific Computer Inc's Alpha RISC-based Kenai workstations. It reckons that the Kenai - keen eye - workstations are the industry's fastest desktop three-dimensional graphics and imaging systems, and use Kubota's Denali three-dimensional graphics and imaging subsystem alongside the Alpha RISC. It is also offering a bundle comprising the WorldToolKit 2.0 with the Kubota Kenai workstation running OSF/1, NTSC video output board and various virtual reality peripheral options at from \$49,000 where it reckons that comparable integrated systems are currently priced at \$100,000 and up. The \$49,000 buys a monoscopic system and an upgrade to a stereoscopic system is available. The Kenai systems use a full 64-bit implementation of OSF/1 Unix and are claimed to be the only workstations that support all major graphics standards including X11.5, PEX, GL4 (MPGL/PGI) and OpenGL, PHIGS and AVS. They support cine loops, image zooms, rotates and warps, convolutions, contrast stretching, three-dimensional graphics and volume rendering using trilinear interpretations. A WorldToolKit application that was written for MS-DOS or Windows will compile on high-end workstations, Sense8 says.

BEAME PREVIEWES NETWARE EMULATION FOR NT, SOLARIS

Beame & Whiteside Software Ltd, Dundas, Ontario has MultiConnect IPX, emulation software to enable an NT system to function as a NetWare 3.11 server. The line includes NetWare server emulation for Windows NT and SunSoft Inc's Solaris, and NetWare client emulation for NT. MultiConnect Server for NT enables users to move to NT file servers but retain NetWare as their network operating system, and they can avoid dedicating a computer to be their NetWare server because the emulation software can reside on a user's NT workstation, Beame says, although most users are expected to use NT as an application rather than a file server, where it requires only client software. MultiConnect Server is implemented as loadable drivers and provides file, print queue management, and binary services. It uses the native NT or Solaris file systems but make them look to the client like the NetWare 3.11 file system. Launch is in January; no prices as yet.

HEWLETT, CRESCENDO, DO FDDI VIA EISA FOR HP 9000s

In a bid to break its RISC-based desktops out of the low-speed Ethernet bottleneck, Hewlett-Packard Co has linked with Sunnyvale, California company Crescendo Communications Inc to offer a series of FDDI- and CDDI-based 32-bit EISA bus adaptors. These will support HP Apollo 9000 Series 700 workstations using FDDI over unshielded twisted pair, shielded twisted pair, and fibre optic cable. The Crescendo EISA-HP adaptors provide 100Mbps connections for a Hewlett-Packard workstation to any FDDI or CDDI concentrator. Products include the C320-HP CDDI EISA Adaptor, C321M-HP FDDI EISA Adaptor, C325 CDDI EISA Dual-attach Option, and C316M FDDI EISA Dual-attach Option. Single-attach adaptors require a single slot; the dual-attach option needs a second one. According to Crescendo, all products support the Simple Network management Protocol agent and are compatible with SNMP-based network management systems such as Hewlett-Packard's Openview. The SNMP network management application, the C1802 Crescendo manager for the HP/Apollo workstation provides remote management of any Crescendo concentrator on the network, using a graphical representation of the concentrator front panel. The C320-HP CDDI EISA Adaptor is \$1,500. The C321M-HP FDDI EISA Adaptor is \$2,000. The C325 CDDI DAS and C326M FDDI DAS options are available for \$700 and \$1,400. The C1802 Crescendo Manager for HP is available for \$900. All products are available today.

NIPPON DEC STARTS SUPPORT SERVICES FOR WINDOWS NT, LOCAL NETWORKS

Digital Equipment Corp's Nippon DEC has started two new services businesses, the PC-LAN services business, a multi-vendor personal computer local network support service, and the Windows NT services business aimed at Windows NT users. DEC has been selling Pathworks for five years, and this time will announce NetWare, LAN Manager (Windows NT server) and TCP/IP. The personal computer local network life cycle services includes 19 individual services including telephone support, consulting and network design. Other services for Windows NT such as installation and set-up, and an advisory hot-line, are also offered. For NetWare DEC has signed a Support Alliance Partnership with Novell, and has also been working with Microsoft since May. Nippon DEC will sell these services directly, and also through its distributors, who will be offered a discount on the service sales.

NCR ADDS NEW X-TERMINAL

NCR Corp has boosted the performance of its X-terminal systems with the introduction of the NCR 3534 X-Station, which it says features a higher level of component integration than previous generation products, making it both cheaper and faster. Using the 25MHz or 33MHz Intel i960 chip (the same chip used in HP's Envixez family, detailed last week), the NCR systems include a Turbo option using the company's Viper ASIC chip, taking performance levels up to 132,000 XStones. The product also includes a hardware cursor, full set of standard comms connectors (2 RS232 serial ports, one Centronic parallel port and Ethernet ports), up to 4MB flash memory and an upgrade of NCR Corp's xEasy software environment. Optional Telnet 3270 terminal emulation allows for mainframe connectivity over TCP/IP. Prices start from \$4,195 with 19" colour monitor, 4Mb memory, mouse and keyboard.

OPENVISION PREVIEWES MANAGEMENT SOFTWARE

OpenVision, the well-funded California start-up, was quietly demonstrating its much touted OpenV*OPSS systems management solution at Unix Expo last week. Designed to provide the industry's first integrated suite of management software targeted specifically at heterogeneous distributed environments, OpenV*OPSS is on track for its world debut in December. The initial release will support SunOS, HP/UX and AIX as management platforms and will offer the ability to manage systems, including SCO, VMS, Ultrix, Pyramid, UnixWare, MPE, Sequent and Solaris. OpenVision has also recognized the importance of databases within the distributed enterprise and will provide integrated support for Oracle, Sybase and Informix, which should give them a leg up over some of their competitors. We hear platform vendors are lining up for ports.

UNIFY INTRODUCES UNIFY VISION

Sacramento, California-based Unify Corp has introduced Unify Vision, its graphical object-oriented application development environment for Unix, Mac, and Microsoft Corp Windows NT (UX No 446). The product, originally codenamed Peacock, is based on Visix Software Inc's Galaxy cross-development application programming environment and provides a platform, graphical user interface and database-independent framework, the company says. Unify Vision is a graphical, menu driven development environment. It is integrated with the firm's existing portfolio of development tools, and compatibility with Unify's Accell/4GL is ensured, the company says. It comes with a compiler and graphical debugger, which can be accessed from within the development environment, and a query report tool. Developers will be able to customise object functions of an application, the message handlers and toolbars. Unify Vision also allows developers to transport data, applications, and even parts of an application across different operating system environments via Dynamic Data Exchange and Dynamic Link Library interfaces. It will also enable users to automatically generate forms, with find, update, delete and add capabilities built in. All database transaction concurrency control can also be automatically applied. Unify Vision supports a variety of relational databases including the firm's own Unify 2000, Sybase, Informix, Ingres, Oracle and IBM's DB/2. Access to personal computer-based databases is provided via Microsoft's ODBC drivers. The software is available now for Unix and Windows, and versions for Windows NT and Apple Mac will follow by the end of the year, the company says. Unify Vision is priced at £3,500. Meanwhile, Unify will release a new version of Accell/4GL, its character-based application programming tool, with added support for Microsoft Windows NT, IBM OS/2 and Apple Mac in the first quarter of 1994. Version 3.0 will provide migration paths to Unify Vision, which will enable users to import and enhance Accell/4GL-based applications within the Unify Vision framework, without modifying code, Unify. Accell/4GL 3.0 will also support ODBC drivers and the WinSoc application programming interface.

NETWORK COMPUTING OFFERS NETWORK AUDIO STANDARD

Network Computing Devices Inc, Mountain View, California, has developed an audio protocol for its line of X terminals and is offering it to the X Consortium and the Interactive Multimedia Association as a standard for encourage the development of playing, recording and manipulating sound over a network. It has already won support from the Santa Cruz Operation Inc, Z-Code Software Corp and DUX Software Corp. The Network Audio System was originally developed for the MCX family of X stations, announced in February, the first X terminals with audio support - and an application programming interface has been available to third-party developers since March 1993. The company has also followed the Common Open Software Environment process guidelines to create a sample implementation of the source code for SunOS 4.1, which it is offering free to the industry via the Internet for public use and review. The Network Audio System is designed to provide a mechanism for transferring audio data among applications and desktop devices such as personal computers, workstations and X terminals. Applications specify how the various inputs and outputs are hooked together, and the system automatically routes sound data to the proper destination and does any necessary conversions, the company says. Sounds can either be stored on an audio server for rapid replay, or streamed directly to output devices such as speakers, with support for dynamic volume adjustment and mixing of sounds. Santa Cruz says it plans to incorporate the system in its Open Desktop graphical environment by year-end, Z-Code is using it to add sound functionality to its Z-Mail software, and DUX Software Corp is using it in a new multi-player Unix version of SimCity, its simulation game, and also plans to use it in another game, SimEarth, as well as in a business graphics and presentation tool.

BIG THREE PANICKED BY NOVELL

The move to turn the Unix spec and trademark over to a neutral watchdog - see front page - on the surface seems a constructive, if radical, gesture to heal some of the Unix fragmentation. Novell would like to see the fissures disappear completely and for all the mouthing of the "one specification/multiple implementations" line the Big Three are so fond of is clearly still bound on trying to achieve not only one specification but one implementation as well, namely UnixWare. This is where Zander, who has nothing but harsh words for the code, draws the line and says that he (and by implication IBM and HP as well) was stunned to finally realise in that Friday phone call that the only source code still on offer from Novell is the UnixWare source, a bitter pill to swallow after Novell, turning its back on its original statements of intent, he said, immediately dismembered Unix System Labs upon its acquisition, integrated it quickly into Novell, dropped USL president Roel Pieper, absorbed marketing and acted on its plans to offer binary code in competition with its OEMs. The Big Three at least are panicked at the prospect that Novell, originally heralded as the saviour of Unix, is quickly adopting the Microsoft model, shared only by Intel. It seems the process of compromise by which the firms were to reach an agreement on a spec to pass up to X/Open was short-circuited by Novell's desire to have a done deal on the table by the time of its Unix Expo keynote - and the subsequent chicken and egg reasoning commenced. Whilst Sun said it would not hesitate to support a Unix trademark, despite its heavy investment in marketing the Solaris brand - "we'd simply sell Solaris as the best Unix implementation," said CEO Scott McNealy - Novell cannot give up a Unix spec that isn't supported by the Big Three. On the other hand, Sun et al won't lend their support to a spec which would mean they'd have to give up too much of their respective operating system enhancements in favour of Novell technologies

SANTA CRUZ SCEPTICAL OF UNIXWARE

The Santa Cruz Operation Inc says that 70% of Unix licence shippers, by which it means itself, Hewlett-Packard Co, IBM Corp and Digital Equipment Corp, have no intention of adopting Novell Inc's Unixware because "it doesn't fit into their strategy". Unixware has been endorsed by Unisys Corp, Compaq Computer Corp and Dell Computer Corp, however SCO declared, "Novell would like the OEM's to drop their own versions of Unix, but it realistically won't happen" as "in most cases, it is hard just to take binary and slip it out of the door" - everyone, of course, tweaks their OEM products to differentiate them and make them suitable for their own markets. Furthermore, despite Novell's attempts at making Unixware an industry standard, first by slashing prices, and then by using its not insubstantial influence to get the Unix vendors rallying round, few licences have actually been sold in Europe, SCO attests, whereas it has seen European business grow by more than 30% over the past year. This is because Unixware is "immature", lacks applications, device drivers for personal computers and a "skills distribution channel". On the other hand, SCO says, it is committed to adopting the common Unix application programming interfaces (UX No 451) and wants "Novell to do the same rather than confuse the market on a product issue".

NEW CONVEX UNIT TO MARKET ROBOTIC STORAGE SERVERS

Richardson, Texas-based Convex Computer Corp is diversifying with the formation of a new unit, specialising in data storage and management systems for Hewlett-Packard Co Apollo 9000 Series 700 Unix workstations at the low -end, and Convex's own C Series mini-supercomputers at the high-end. The new division will offer a range of DataSeries systems, based mainly on bought-in hardware. Both Hewlett-Packard and Convex fileservers will be linked to robotic tape storage systems from the likes of Storage Technology Corp and E-Systems Inc's Emess unit, and will run bought-in hierarchical storage management software, such as its own enhanced version of OpenVision Inc's UniTree, UniTree+. Convex reckons it is pitching at a \$2,000m-a-year market and that it is the first offering such an integrated system. Low-end systems using Hewlett-Packard computers, will start at \$150,000. High-end ones, with a Convex C-3 and several tape libraries, go up to \$5m.

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UnixWorld, the first newstand Unix publication now owned by **McGraw-Hill**, is going to change its name come January to **Open Computing**, transitioning by calling itself Unix World's Open Computing and going through a makeover. Editor-in-chief David Flack says he thought calling it Open Systems Computing was pretentious. Unigram is starting to feel a bit lonely if aggressively faithful to its roots. Flack says the new book will continue to have a Unix bias.

Sun next week will memorialise the sale of its millionth box coupled with the sale of the 1.4 millionth copy of the SunSoft operating system.

The **Unix System Group** at **Novell** currently represents 18% to 20% of the company's overall business, according to USG chief Kanwal Rehki who projects it'll jump up to 25%-30% in 1995. He has also counted a total of 1.2m units of Unix being sold by all vendors in the last 12 months.

Unisys executive Jim Unruh, who spoke in support of **Novell's** policies last week at the Novell strategy briefing, hinted that Unisys will add technology to **UnixWare** sometime in the future. He could not be drawn further.

Although **Novell** ostensibly bought **Unix System Labs** for \$320m in stock, it actually paid only \$250m for the operation, according to **Novell** executive vice president Kanwal Rehki. Because **Novell's** stock price dropped after the deal was announced, **Novell** was able to go out and buy back its stock at a cheaper price and use that for the transaction, he said. If it goes ahead and unburdens itself of the Unix trademark, **Novell** will take a \$15m writeoff, he added. It is interesting to note, as **USL** insiders affirm, that the operation currently collects practically nothing from **OEMs** for use of the Unix name.

DEC is believed to have spent somewhere in the neighbourhood of \$150m to \$200m on **OSF/1**.

The money: apparently financing is playing a part in this brouhaha about turning Unix over to **X/Open**. Sources claim that **X/Open** is losing money with the **COSE** stuff and the 1170 API specs, and there are estimates floating around that it would need \$5m to \$10m to handle the Unix brand. People who were in Japan last week where **X/Open** was having its board meeting said that much hadn't been ante'd up, but indications were that only **IBM**, **HP** and **Sun** had made pledges, but that the other 11 executive members would be expected to make contributions. It is believed **X/Open** wants more from **Novell Inc**, which may be resisting. **Novell** anticipates that **X/Open** would receive money from companies joining at the executive level once it holds the brand.

Former **Unix System Labs** president Roel Pieper, now head of **Tandem's Ungermann-Bass**, told *PC Week* that his departure was due to disagreements over **Novell's** Unix strategy and seemed to indicate he thinks **Unix OEMs** will get the short end of the stick. Pieper was quoted as saying "I believe [Unix] is a horizontal technology and should be part of many products. **Novell** believes it's a vertical product - a value by itself."

"We didn't go to **Novell Inc** for availability, communications or **IBM** connectivity," says **Sun Microsystems Inc** boss, Scott McNealy, and "Unix System Labs has not been the driver of functional enhancements to Unix for many years now."

Hewlett-Packard Co founder David Packard, who helped start the company in his garage and gave us one of our more colourful traditions, has retired as chairman turning the job over to **HP** CEO Lew Platt. **Hewlett-Packard** of course was the cornerstone on which Silicon Valley came to be developed.

IBM Corp, which now holds 5.68% of **Compagnie des Machines Bull SA**, has said it will see its stake diluted rather than participate pro rata in the next planned capital injection. **IBM France** chairman Claude Andreuzza said caustically "it wouldn't bother us at all to see our share decline. We aren't Bull's banker."

Director of systems software at **IBM's** advanced workstations division, Donna Van Fleet, explained that **Workplace OS**, designed for little-endian **Intel Corp iAPX-86** architectures, will be up on the bi-endian **PowerPC** within six to nine months, but is unlikely to make it on to big-endian **RS/6000 Power** systems anytime soon. Meanwhile, **PowerPC 603** has taped out to fab.

At least one user that **Sun Microsystems Inc** rolled out to support its **SparcCluster1** announcement at **Unix Expo** last week (**UX No 454**), said that although it welcomed **Sun's** new **Network File System** server, it felt the company had it on the upgrade treadmill in other product areas. Spending on each new generation of desktops meant the users regularly blow procurement budgets - it said it wouldn't be putting **Sun's** symmetric multiprocessors on to its employees' desks, for fear of the same happening again.

Users at the **SparcCluster** announcement also said they wanted to see file-caching mechanisms added to **Sun's NFS** like those already found in **Transarc Corp's** alternative **Andrew File System**, part of **OSF Distributed Computing Environment**. Asked what they would like to see supported on future **SparcCluster** systems, they all called for **FDDI**.

Sun claims it shipped 500 **SparcServer 1000s** in the first month of release and 475 **SparcCenter 2000s** in the fourth quarter of 1992 when first deliveries began.

IBM Corp's new chief Louis Gerstner is setting up a new 11-man executive committee to coordinate the company's businesses, according to *The Wall Street Journal*. The move is diagnosed as a way to retain **IBM's** objective of providing customers with unified solutions and at the same time give the diverse **IBM** division a mechanism for talking to one another. It indicates Gerstner continues to be serious about not spinning off key **IBM** operations. The reorganisation is also said to diminish the role of mainframes by putting the erstwhile **Enterprise Systems** under John Thompson, the same exec who heads mid-range minicomputers. The committee includes Thompson, Ellen Hancock, who has networks and high-end software, Patrick Toole, who has chips, disk drives, printers and industrial software, **PC** chief James Cannavino, Gerald Czarnecki, head of human resources, Robert LaBant, head of US marketing, Ned Lautenbach, head of overseas marketing, Bernard Puckett, head of corporate strategy chief financial officer Jerome York and **IBM** vice-chairman Paul Rizzo.

Oracle Corp's parallel server is in testing at **Sun Microsystems Inc**. **Hewlett-Packard** credits Ray Noorda with bringing **Sun Microsystems** into the discussions that led up to **COSE**.

Apparently the **UnixWare** name belongs to somebody else in Germany and **Novell** is reportedly in negotiations trying to get it back.

Wang Laboratories Inc's plan of reorganisation was accepted by the bankruptcy court last week, so the company duly emerged from Chapter 11 protection after 13 months supervision - and with an unusually clean balance sheet.

Hewlett-Packard Co and mainframe system software vendor **Legent Computer Corp** have signed a non-exclusive agreement to jointly develop and market systems management software to control both mainframe and client-server environments.

IBM Corp claims the **Common Open Software Environment** vendors have now signed the relevant joint development agreement, enabling common desktop environment components to be cross-licensed amongst the **COSE** firms (**UX No 451**). Au contraire, say our sources, who tell us the paperwork is still with the lawyers.

Proving that **Unigram**, at least, isn't smoking dope, **ICL Plc** was ready for the **Novell Inc-X/Open Co** announcement last week and even though it didn't happen on schedule unabashedly went ahead and circulated a prepared statement of support anyway. It read in part: "Novell's courageous decision to offer control of the use of the Unix brand to a vendor-neutral organisation demonstrates a vision and commitment to market expansion that must be applauded. The reduction of confusion in the market will be significant." It promised to ship "thousands" of copies of **UnixWare** with its **Intel** and **Sparc** systems.

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NOVELL MAKES CONCESSIONS IN GREAT UNIX GIVEAWAY - SOURCE WILL BE UNIX, NOT UNIXWARE

Novell Inc is now intending to make the Great Unix "Give Away" in mid-October, the 11th being a likely ecumenical date, which is untinged by any Novell-dominated event - like NetWorld in Dallas which precedes it by a week - or fallout from the Unix strategy briefing on September 21 where it was originally supposed to happen (UX No 454). Novell is fixed on the "give away" course and is hurriedly making whatever concessions it must to the Big Three firms (Sun Microsystems Inc, IBM Corp and Hewlett-Packard Co) to effect it. Sources say a more malleable Novell is now willing to abandon its insistence that UnixWare be allowed to be non-compliant with the proposed X/Open Co XPG branding scheme or that Novell itself be allowed to exercise a veto power over the future direction of Unix. The source will also be called Unix, not UnixWare. To use the Unix trademark, vendors will have to use the word "Unix" somewhere in their product name. Sun has already said it'll offer Solaris as "the best implementation of Unix" (UX No 455): what'll happen to AIX or HP-UX has yet to be determined. For its efforts, Novell is likely to be allowed free membership in X/Open, the proposed keeper of the Unix flame (although there will be new money from elsewhere to fund this and other X/Open projects), and Novell will still collect royalties on the code. The royalties have still reportedly not been adjusted to reflect current events. Companies like SunSoft Inc, for instance, say they have taken no code or even bug fixes from Unix System Labs in over two years. The X/Open agreement hadn't been signed as we went to press - another teleconference call was scheduled for the afternoon of Friday 1st - and a memorandum of understanding was being worked-up, that is said to have a cash-by date of October 11. After that, the paper goes to lawyers. X/Open is keen that any announcement should be much more low-key than the September 21st event.

"NEWORG" TO SUPERCEDE UI AND OSF

Against the backdrop of Novell Inc's attempts to move the Unix specification into X/Open Co, the COSE chieftains continue to busy themselves cleaning up the mess left by the Unix Wars and formalising their loose coalition into a real live consortium, now nicknamed NewOrg (UX No 452). SunSoft Inc, IBM Corp and Hewlett-Packard Co conceive of the agency as a small East Coast unit staffed by 30 or 40 experienced marketeers and folks who know how to cut a joint development agreement - and no software engineers. In this last respect at least, as one source pointed out, it is "not the Open Software Foundation done over." Otherwise, it might be. Its board of directors will be the companies who spend the big bucks founding it and there will be different tiers of membership apparently open to all comers. Its purpose is not only to promote the Unix specification but to influence its development and then persuade X/Open Co, the "Supreme Body," to bless it. Japanese companies, including Fujitsu Ltd, and to a certain extent Novell and Digital Equipment Corp, a latecomer to the COSE combine, are said to be interested. The amounts needed to buy in have reportedly not been set yet nor has someone been fixed on to run it. The COSEs are reportedly anxious to move the new fixture into place before Comdex/Fall when Microsoft Corp is expected to make a big splash with Windows NT. An announcement date early in November is anticipated, Tuesday November 9 being the one we heard. (Now that we said that they'll probably change it.) One of the by-products of NewOrg will be to deflate both Unix International and the Open Software Foundation.

ICL FIRMS UP NOVELL SOURCE PLANS

Perhaps dealing a blow to Sun Microsystems Inc's hopes of snaring another Fujitsu Ltd sibling for its Solaris Unix, ICL Plc last week said it would take source code from Novell Inc and make its existing DRS/NX Unix operating system compatible with it. ICL claims users have been crying out for just the kind of NetWare-Unix integration that Novell outlined for UnixWare last week (UX No 455) and says it'll offer all of its value-added DRS/NX features, and more, in the system it eventually implements. ICL, which provided the reference implementation of Unix SVR4 for Sun's Sparc RISC, says it is negotiating with Novell to do the same for UnixWare - not something likely to go down a storm in Mountain View. Furthermore, as its Fujitsu parent helped develop the multiprocessing features of its Unix SVR4.2 implementation, ICL says the Japanese firm will offer it the same support in its UnixWare efforts. ICL sells some Sun workstations as technical solutions, and thinks that's where the strengths of Solaris lie, and not in the commercial client/server world. Meanwhile, ICL sister company, Amdahl Corp, has thrown its lot in with Sun's battle with UnixWare, last week agreeing to help integrate features of its UTS mainframe Unix into Solaris and signing to OEM the Sun operating system and Sparc servers (UX No 455).

SUNSELECT OFFERS SOLARNET AS NETWORK OPERATING SYSTEM FOR THE ENTERPRISE

SunSelect, the Sun Microsystems Inc personal computer-to-Unix connectivity unit, is set to open another front in the network war, by introducing what it claims is a complete network operating and management system, based upon TCP/IP and its PC-NFS protocol. The packaged product, code-named SolarNet, is aimed at getting personal computers and local area networks integrated into corporate Unix environments, getting rid of gateways and co-existing with Novell Inc NetWare LANs. Moreover, as mainframe users downsize to Unix solutions, they'll still want to retain their PC and LAN systems, argues SunSelect. Running on Solaris-based Sparc or Intel servers, SolarNet combines TCP/IP, NFS/ONC+, SNMP and DHCP - dynamic host configuration protocols - with transport-independent application programming interfaces that will allow users to integrate other network topologies. On top of SolarNet, SunSelect plans to offer a raft of third-party systems management, administration and development tools. Client and server versions will be bundled with all components in the same package allowing users to configure their systems from the word go, rather than having to add modules onto a basic framework like NetWare Loadable Modules on top of Novell NetWare. SolarNet will be plug into other network maps, such as SunNet Manager and Distributed Computing Environment. SunSelect will integrate other interface specifications - such as the Desktop Management Workgroup APIs - as they emerge, and says it'll run over any protocols that get standardised in future using its transport-independent mechanism. SolarNet uses all new technology implementations, claims SunSelect, except for PC-NFS, of which it will use the latest version. That's currently on 5.0, and there will be another revision before SolarNet comes to market in any case. No timescales were offered, and pricing and packaging hasn't been set. The stuff may also debut under another name. Hewlett-Packard Co HP-UX, IBM Corp AIX and Santa Cruz Operation Inc Unix ports are planned, with OEM deals expected. SunSelect claims 50% of PC-NFS users are running in conjunction with non-Sparc systems. IDC estimates that out of 112m personal computers in use, 33% are connected to LANs. Of that 37m, 50% are connected over NetWare IPX protocols, 13% use AppleTalk, 9% TCP/IP, 8% Netbios, 6% Vines, 5% DECnet, 4% XNS and 5% other. Forecast compound annual growth rates for the various protocols - part of SunSelect's raison d'être for SolarNet - are topped by TCP/IP, at 60%, with IPX at 50%, DECnet 40% and AppleTalk 30%.

PICK GOES CLIENT-SERVER

Pick Systems Inc's Moscow software development office will soon release products that will also see the Irvine, California-based firm makes its first steps towards client/server computing. Come November or December, customers will be able to buy SQL extensions to their Advanced Pick databases, meaning SQL-compliant database users will be able to access and capture information held on a Pick database. Informix Corp customers will be the first to benefit, but other databases will follow. The new extensions will be sold as an upgrade, but will also be bundled with subsequent releases of the Pick database - version 6.1 is due in Spring next year and will incorporate transaction processing capabilities. Although pricing has not yet been decided, Pick Systems said upgrades generally amount to about 15% of the entire system cost. The Moscow team is also working on a project that will enable Pick users to access SQL databases, but no time-scales were available on this. Hot on the heels of the SQL offering will come a new Windows-based graphical user interface. One part of the software will sit on a server - possible options here include IBM Corp's RS/6000s, Data General Corp AViiONs and Hewlett-Packard Co's Series 9000s. Pick Systems also intends to announce a port to ICL Plc's DRS/6000 on October 8 for release in early November, another to Siemens-Nixdorf Informationssysteme AG RM machines in mid-November, and a third to Microsoft Corp's Windows NT by the second quarter of 1994 - the company is keen to cover itself in case NT wins the struggle against Unix for control of the desktop market.

PowerOpen

The company also intends to make its database comply with the PowerOpen application binary interface - all such porting activities are carried out at US headquarters, however, and not in Moscow. The other part of the software resides on a Windows-based client, which provides an interface to the Pick database. This means that users can process their data locally, Pick-based servers could previously only be hooked up to dumb terminals. Motif and X Windows versions of this software should also appear in the second or third quarter of 1994. Customers will only buy licences for the client software - not the server part - on a per user basis, but prices have not been decided yet. Pick Systems also intends to add object extensions to its database at some unspecified time in the future - these will enable object-oriented database users to access its database, although the group said development work was not yet advanced enough to give further details. And last but not least, the firm has decided to bundle an electronic mail system with the database, a system it is currently using in-house - again no timescales were available. Anyone logged onto the Pick database will be able to send and receive e-mail messages, but plans are to enhance the product so that users will be able to send and receive messages from other e-mail systems, the first being Internet.

BORLAND PORTS dBase IV TO SOLARIS

Borland International Inc has ported the new release of its dBase IV database - version 2.0 - to Sun Microsystems Inc's Solaris 386 2x, which runs on Intel Corp-based machines. It has also updated its existing Digital Equipment Corp VAX 5x, 6x and Alpha VMS ports. New features of dBase IV version 2.0 include mouse support, high-performance filters for faster queries, and more than 70 new language enhancements, such as new user interface commands. dBase IV version 2.0 for Unix, including the new Solaris environment, will be available in the autumn, the VMS version in the first quarter of 1994. No pricing was given.

NOW ARDI HAS MAC EMULATION FOR INTEL

Albuquerque, New Mexico-based Ardi says it is developing emulation software that will enable unmodified Apple Computer Inc Macintosh software to run on 80X86-based personal computers. It is also working on an X-windows and Microsoft Corp Windows NT version of Executor/DOS for the Alpha, MIPS and SPARC processors. The initial release won't support colour, sound, System 7, AppleTalk, or Script Manager, but the company says these features will be added when release 2.0 comes out in May 1994. Version 1.0 is expected by the end of the month at about \$100, but Ardi is shipping a demo version now. "Ardi +1 505-766-9115

OBJECT ORIENTED TECHNOLOGIES

DEBUTS CORBA TOOLKIT

Real-time Consultants Group Ltd's subsidiary Object Oriented Technologies (OOT) has launched a Distributed Object Management Environment (DOME) toolkit for building "the most advanced object request brokers there are". The product is the Leamington Spa-based firm's own implementation of the Object Management Group's Common Object Request Broker Architecture, although it does differ from CORBA in some respects - "we took an objective look at CORBA" and it "is unworkable" in places, OOT declared. For example, it says, DOME uses static invocation rather than the recommended dynamic invocation - this means that a given system is prevented from working unless all the necessary objects needed to run it are in place, thus adding "an element of robustness". Dynamic invocation, conversely, "has the potential to create chaos" because a system will still run even if all the necessary objects are not residing in the system - this can result in it going down. Furthermore, CORBA specifies that objects should be written in C, whereas OOT reckons C++ is better - it "offers a cleaner interface" because most application developers are using it. The object request brokers built using DOME sit on top of any computer they have been ported to, whether that be a personal computer or midrange Unix box. Current options include Hewlett-Packard Co, Sun Microsystems Inc and Stratus Computer Corp machines. A range of objects are supplied to cope with different graphical user interfaces such as Motif, and databases such as Oracle Corp's. Customers are also offered different network driver options so they can use varying types of networks, including TCP/IP and Netbios-based ones. All such facilities "are supplied as different class libraries so that users can mix and match". Essentially, DOME "provides all the necessary links" because "programs interface only to DOME, and DOME interfaces to the outside world". So, if a user wants his personal computer to talk to a Unix box, "the DOME on the personal computer talks to the DOME on the Unix machine" - "the software just thinks everything is one machine". DOME is available now. It costs £3,500 for a development licence, varies in price for an object request broker run-time licence, and costs £15,000 for a site licence. The next thing up OOT's sleeve is a C++ applications generator - ObjectCraft - although no release date was available. And the firm also hopes to announce a new deal with a network product modelling company at ObjectWorld this month. The third party product should enable DOME users "to design, build and test distributed systems".

COMPUWARE HAS NEW ACCOUNTING SYSTEM

Cupertino, California-based mainframe diagnostics software house, Compuware Corp, has announced the production availability of its new integrated resource accounting system for client/server Unix and relational database environments. EcoChargeBack is a member of August acquisition EcoSystems EcoTools product family. It essentially correlates information on the use of database resources with Unix accounting data and then stores it in a centralised accounting database. System administrators can retrieve and report on information held in this database by categories such as user, database, application, workgroup, or server, or use the database for pinpointing areas of a client/server system in need of performance tuning. EcoChargeBack version 1.0 supports Oracle Corp databases running on Unix servers; TCP/IP networks; and Unix, personal computers, or terminal clients. Prices start at \$8,000 depending on configuration. EcoTOOLS Version 2.0 is also currently in production.

SUN LEADS CAD MARKET

Sun Microsystems Inc continues to lead the field in the technical workstation market, and has now displaced Hewlett-Packard Co and IBM Corp in the mechanical computer-aided design world. According to market research firm, Dataquest, Sun now commands 36% of the mechanical design market in terms of volume sales, while Hewlett-Packard holds 23% and IBM, 8%. It supplies 60% of all workstations sold into the electronic design automation arena, compared with Hewlett's 25%, and IBM's 2%. Sun also boasts 62% of the computer-aided software engineering market. Here Hewlett has a 5% share compared with IBM's 14%. Dataquest director Mike Seeley commented, "There's been an erroneous impression that Sun has changed its focus resulting in a loss of momentum in its traditional technical market stronghold. In fact, the numbers prove that Sun continues to grow in technical markets while also establishing a successful business in commercial markets."

HEWLETT-PACKARD LAUNCHES ORB PLUS - WITH SUN'S HELP

Hewlett-Packard Co has released HP ORB Plus, its environment for developing distributed object-oriented applications, to a select band of ISVs. HP ORB Plus includes the Object Management Group's Common Object Request Broker Architecture 1.1 specification and uses Open Software Foundation Distributed Computing Environment as its transport mechanism. HP ORB Plus incorporates DOMF - Distributed Object Management Facility - a location-independent object communication mechanism with associated services, tools and some sample applications HP has developed in conjunction with SunSoft Inc. As expected, (UX Nos 425, 441), HP is now working to integrate its DOMF implementation with - and therefore bring CORBA compliance to - IBM Corp's System Object Model, including its distributed DSOM extensions. The two eventually plan to offer a common framework for running object applications on multiple architectures, beginning with their own systems. Furthermore, HP and IBM have committed to work with SunSoft - which has already released its version of the DOMF object request broker as part of the Distributed Objects Everywhere environment (UX No 440) - to ensure compatibility between their respective CORBA implementations. The alliance may lead to a joint submission to CORBA 2 by the three, the next stage of OMG's specification, addressing full interoperability issues between the variety of vendor-specific CORBA implementations. The initial version of HP ORB Plus generates objects in C++. A generally available developers' kit, additionally supporting C and Distributed SmallTalk so that objects can be written in different languages, won't be around until at least the middle of next year. Meanwhile, HP has also released version 2.0 of the Distributed SmallTalk toolset, which works with ParcPlace Systems Inc's VisualWorks development environment. Applications generated with it can use HP's own OpenODB or Servio Inc's Gemstone object databases as storage mechanisms. HP claims Distributed Smalltalk applications run unmodified HP, IBM and Sun workstations, and will run on Apple Macintosh and Windows NT or Windows 3.1-based personal computers in conjunction with VisualWorks 2.0, which is due by the end of November.

...SUN CLIENT FOR ITS OPENODB...

Hewlett-Packard Co has launched a version of its OpenODB object-oriented database to run on Sun Microsystems Inc workstations, and says it has enhanced OpenODB's ability to access all information from older systems, making it easier for companies to pull together distributed information. OpenODB is split into client and server portions, so multiple systems can be used as clients to an OpenODB database, and after the Sun version, Windows and IBM Corp RS/6000 OpenODB clients are planned. The external-functions feature, available from both the client and server end, is designed to enable companies to retain and continue using all existing sources of information - flat files, custom databases and commercial databases, and OpenODB presents the data in the form most relevant to users' needs or responsibilities - HP suggests oil and gas information can be represented on-screen as oil well icons to an oil production staff member and financial-assets reports to a controller. Integration of OpenODB's external functions with Information Builder Inc's Enterprise Data Access/SQL tool, users to gain transparent access to more than 50 commonly used commercial databases stored on up to 35 different types of system. The 50 databases include IMS, Model 204, DB2, Image/SQL and all other relational databases. SmallTalk and C++ interface libraries, HP Distributed SmallTalk and Focus can all be used to develop applications that access objects in OpenODB directly. It also announced new user-based pricing, with the entry price per concurrent user of OpenODB from \$1,500 to \$5,000, and a three-month evaluators bundle for \$5,000.

...SECURE NFS GATEWAY FOR DCE DISTRIBUTED FILE SYSTEM

Hewlett-Packard Co says its implementation of the distributed file system (DFS) component of OSF Distributed Computing Environment - which allows users to access files and applications anywhere on a network as if they were on their own system - will come with a secure Network File System gateway that'll allow NFS clients to access files on DFS servers. HP is also developing software specifically for managing DCE-based network systems, due next year, that it will integrate with its OpenView network management environment. By that time, Transarc Corp's DCE-based on-line transaction processing monitor will also be available, as Encina/9000, and managed under OpenView.

CRAY DULY LAUNCHES PARALLEL T3D

Cray Research Inc's new massively parallel Alpha RISC-based T3D machines duly appeared last week in a variety of sizes. At the "small" end is a 32-node version rated at 4.8 GigaFLOPS peak, and costing \$2.2m, this skips up through 64-, 128-, 256- and 512-processor versions to a box with 1,024 Alphas that is rated at 153.6GFLOPS and costs \$31m. At the very top of the line is an unpriced 2,048 processor machine offering 307.2 GFLOPS peak. Key to the machines' speed, says Cray, is the inter-processor latency, which has been whittled down to less than one microsecond. As reported (UX No 454), the new architecture is designed to keep Digital Equipment Corp on its toes by making it relatively easy for Cray to switch processor suppliers if the Alpha does not keep coming up with the goods - Sparc is ruled out currently since it lacks a 64-bit implementation. The machines run Unicos Max, a distributed, parallel version of the existing Unicos vector operating system, which looks like Unix to the operator. Each of the processors runs the Unicos microkernel, written in C, which is also one of the languages available to application programmers. The more likely option is Cray's extension to Fortran 77 which supports both traditional message-passing and data parallel programming styles. The T3Ds implement the first stage of a three phase process; the next step is due in two or three years with a machine dubbed the T3E which, Cray claims, will offer peak performance in the TeraFLOPS range, the third phase, following a couple of years after that is aiming at sustained TeraFLOPS speeds. The company has started a joint venture called Aptos with Lyon, France-based partner, Jacques Stern's Advanced Computer Research International SA, ACRI. Aptos will act as a high-tech dating agency, bringing together user firms with software partners to solve particular applications problems and implement them for the Alpha-based machines. Nine orders have already been signed for the machines, and Cray says it is involved in between 20 to 30 invitations to tender at the moment. Cray reckons that in five years time around 50% of its customers could have left the C90 vector processing architecture in favour of the massively parallel approach - the speed of the migration depends in large part of the speed with which the proper programming algorithms can be designed to duplicate 20 years of experience at vector programming. At the same time the company renewed its commitment to produce a next-generation vector machine codenamed Triton around mid-decade.

SGI-TIME WARNER TV VENTURE "ON TRACK"

Fun and games is the big news at Silicon Graphics Inc these days, and chief operating officer Tom Jermoluk said last week that the project to install a test interactive television system later this year in Orlando, Florida - where the Mountain View company is working with Time Warner Inc to install complex computer boxes at 4,000 sites in Orlando as a forerunner of new digital television networks of the future - is on track. Jermoluk told the investment conference that the company believes multimedia technologies in the consumer field are a major growth area for Silicon Graphics. The firm is also looking for strong sales demand for the video game system it is developing with Nintendo Co Ltd - the new 64-bit video game system is to be in the arcades by next year and in the home market by 1995. In the company's core business, Jermoluk said the overall workstation market is growing 13% a year while the graphical segment of the market is growing by some 32%.

NAI HAS NEW SOLARIS INTEL BOX

Systems integrator NAI Technologies Inc's systems division - formerly known as North Atlantic Industries Inc - has a new Pentium-based Xpress/MX Server Platform that runs SunSoft's Solaris 2 for x86. The Xpress architecture provides a 32-bit EISA bus and decouples the main CPU from the base board. This means it is easy for users to upgrade their systems from i486 to dual Pentium processors. The firm specialises in US Federal Government work and is based in Hauppauge, New York. Pricing and availability are unspecified.

XINET ENHANCES MAC-TO-UNIX CONNECTIVITY

Berkeley, California-based Xinet has released enhancements to its K-Spool, K-AShare and K-Talk Unix-to-Macintosh connectivity software. K-Spool is a Unix application that enables users of Apple Computer Inc Macintosh and Unix systems to share PostScript printers - it acts as a print server and PostScript filter. Version 7 includes support for Level 2 PostScript functions, comes with a K-Spool monitor that provides information about job status and the ability to cancel queued jobs, and supplies an ASCII-to-PostScript translator for Unix users. K-AShare is an AFP-compatible file server for Unix hosts. It enables a Unix host to act as an AppleShare server for Macintosh users. New features include support for networks without routers, a revised application programming interface, network monitoring and new Sun 4/SPARC loadable drivers, which do not require kernel reconfiguration.

THE STATE OF PLAY: COMMON DESKTOP ENVIRONMENT AND SYSTEMS MANAGEMENT

By William Fellows

X/Open Co's common desktop environment (CDE) working group is currently reviewing specifications for a graphical interface and associated services submitted to it by the COSE firms earlier this summer. The working group is compiling - and gradually working through - a list of issues raised in the review process, and others submitted to it by the user side of the organisation as represented by the CDE Requirements Topic Group (RTG), which, headed by Shell IC's Geoff Coupe, met in Houston, Texas last month (UX No 454). John Loomis, chief architect at OpenVision Inc, and chairman of the 25-strong CDE working group (the first, incidentally, to lead a working group from a non-X/Open board member company) says much of the technology required to fulfill the RTG's wish-list of general requirements - such as Windows integration, management and administration - is either already commercially available or under development. It's up to the vendors to agree whether they'll provide it to X/Open as CDE technologies, says Loomis. Software like SunSelect's Wabi and the functionality that its future incarnations will contain, are at least part of the way down this track, for example - but neither it nor any other of the like will find its way into version 1.0 of the COSE desktop environment. "ISVs will benefit most from CDE," says Loomis, "not users. ISVs will be able to write applications to standard application programming interfaces (APIs)."

The list of "issues" to be addressed ranges from clarification of certain technical points of the specification to requirements for additional functionality. Issues are either resolved or the working group and the vendors "agree to disagree". By way of example, Loomis says if an additional requirement for CDE version 1.0 was that it have the ability run Windows applications (it isn't), vendors could refuse and say they'd support it in the next version, or agree and donate the specifications immediately. Similarly, vendors could decline to provide specifications for a technology requirement full stop - in which case X/Open could write the stuff itself - or they could provide technologies that the working group and RTG don't want, in which case they could either withdraw them or end up with non-X/Open compliant products. In essence, "issues" are questions that can't be dealt with immediately and are put up on e-mail for answers. If the working group isn't satisfied with answers from the COSE contingent then the issues become "actions," which will either be resolved through a repeated process or left hanging. A list of issues - those settled and those still unresolved - will go to the X/Open membership at its Xtra conference in Rome this December, which will vote on the CDE 1.0 specification as a whole. "The list isn't extensive compared to the size of the CDE specification that has been submitted," observes Loomis, who would say no more. Bear in mind the spec is a very weighty tome indeed. "There's only a very small likelihood that they'll [Xtra] find it [CDE 1.0 spec] unacceptable," he says. Result of the Rome vote will be presented at X/Open's members meeting in New Orleans at the end of the first quarter of next year. First products are due by the end of the first half of 1994.

Once the spec is passed, COSE partners will be free to work on their own CDE implementations, adding value for market leverage. X/Open will only brand products XPG compliant if all CDE 1.0 specification features are available. Firms such as IXI Ltd will be entitled to offer the ability to turn certain features off - like the Hewlett-Packard Co VUE control panel - as long as the widget is available in the first place. The basic rule will be that ISVs can add to it, but not delete features.

Licensing terms finally agreed

Unigram now learns that licensing issues - the so-called joint development agreement (UX No 451) - under which the COSE vendors can offer each others' component CDE technologies, enabling ISVs and users to buy a packaged CDE product from a single supplier, were finally resolved in a teleconference call last Monday. The paperwork itself has to be inked - the terms aren't known.

Meanwhile, the process for adding extra features to CDE release 2 is already underway. COSE's original specification was in any case divided into early, mid-term and late deliverables. Late deliverables are already scheduled inclusion in for release 2. The check list - remember COSE was originally seen as a shopping list of Windows-like functionality for Unix by HP and IBM Corp (UX No 430) - which isn't anywhere near complete yet, will include object features and functions, some Windows interoperability and possibly support for non-Unix objects via a mechanism like the HyperDesk ORB object request broker. X/Open sees CDE as a three-to-five year process, with releases every six months - CDE 2 should be well on its way to product form by the end of 1994.

COSE's systems management (COSE III) effort is not yet as advanced as CDE, but as reported (UX No 449), is gathering pace. Initially independent of X/Open's existing systems management workgroup, COSE's own systems management effort - lead by Santa Cruz Operation Inc's David Young and divided into framework and services subgroups - is now delivering systems management submissions directly to X/Open for review. X/Open has agreed to fast-track a systems management application programming interface specification in the same way it is fast-tracking CDE. So far Tivoli Systems Inc in conjunction Novell Inc's Unix Systems Group, and NetLabs Inc have submitted framework proposals. Both are now under review with COSE and X/Open. The idea is for COSE to endorse one by the end of the year which it will recommend to X/Open. Systems management objects will, all parties concur, run under CDE.

Tivoli and USG are offering a framework specification for the next-generation, version 2.0 of the Tivoli Management Environment interface - the product itself is currently on release 1.6 (UX No 455). Tivoli has a reference implementation of 2.0 and is working with IBM Corp - as well as other COSE firms - to ensure Big Blue's Distributed System Object Model will be compliant if a future X/Open systems management specification happens to be based upon the TME 2.0 API. Tivoli says it is quite happy to give up its TME 2.0 interface specification into the public domain, as it will be required to do if the stuff is adopted by X/Open. It admits that third parties would then be able to write their own implementations, and fully expects some to do bits of it, but argues that its own reference implementation will be cheap enough to head off widespread imitations. TME 2.0, which has been in the works for 18 months, will provide the framework for the next 10 years of systems management development, hopes Tivoli boss Frank Moss. There may be a TME 1.7 with some extra features, but the plan is to jump up to a TME 2.0 product next year, with first announcements planned for the first quarter.

STERIA TO BUY DEFENSE FIRM DIGILOG

Steria SA, one of France's largest software and systems integration companies and a Unix specialist, was expected to announce the acquisition of Digilog SA, an information services company based in Aix-en-Provence, last week. Digilog, specialising in the defense and transport sectors, reported 1992 revenues of approximately \$9m and is profitable. By contrast, Steria reported the first loss in its 23-year history in 1992, of approximately \$3.2million on revenues of \$184m.

BORLAND JAPAN PUTS INTERBASE JA3.2 UP ON IBM'S RS/6000

The Scotts Valley, California company's Borland Japan Ltd has begun shipment of a version of its transaction processing relational database management product InterBase JA3.2 for IBM Corp's RS/6000 Unix machines. Since last year, when Tom Laux, formerly MIPS Technologies Inc's Japan country manager, joined the company with responsibility for InterBase in the Asian region, Borland has been developing the market for its InterBase product in Japan, through value-added resellers, system integrators and OEM sales. Borland says that with the increase in interest in Japan in the building of distributed networks of departmental systems, being on an additional system in the shape of the IBM's workstation will add to the success of the product on Hewlett-Packard Co and Sun Microsystems Inc workstations.

APPLE OUTLINES POWERPC PLANS

Apple Computer Inc will launch its first PowerPC-based Macintosh machines running System 7.1 in the first half of 1994. Boxes running a PowerOpen-compliant operating system should follow in the second half - depending on when the PowerOpen specification is released. The first PowerPC 601-based Macintosh systems will be aimed at the midrange and high-end markets, and existing customers will be able to upgrade their existing Motorola Inc 68000-based machines by simply slotting in a new board. System 7.1 operating system has been tweaked to exploit the new microprocessor, but will also include code that emulates a 25MHz 68040 chip, so customers can still use the 5,000 or so existing Macintosh applications. While these will run slower than native, Apple has also been working with various third party developers over the past eleven months to help them port their products to the new hardware. Such applications will run native, and include Microsoft Corp's Word and Excell, Aldus Corp's Pagemaker and Adobe Systems Inc's Illustrator. The firm hopes to have 20 packages available at launch, and another 100 or so within a month. The new boxes will also have voice recognition and multimedia capabilities built-in, and Apple reckons they will help it penetrate deeper into the computer-aided design and graphics art market - of which it already has the lion's share. The company has been criticised in the past for setting its prices too high, but PowerPC-based Macintoshes "should knock the price/performance thing on the head" - and, it hopes, enable it to compete with such vendors as Silicon Graphics Inc. Apple hopes to sell about a million of these machines within a year. PowerPC-based entry level desktops, servers and portables should follow in the second half of 1994. The portables will be based on the PowerPC 603, which vendors should start receiving samples of in November or December. But their release will depend on when Motorola - or IBM Corp - can ramp up production enough to satisfy Apple's need for volume - it reckons it will require about 2m 603s per year. The firm will also announce PowerPC-based systems running its own version of the PowerOpen operating system at about the same time - these will be sold in parallel with the System 7.1-based machines, as an alternative not a replacement. They are targeted at "people looking for a standards-based box", such as traditional Unix users, and at niche scientific markets to which Apple has previously not had access. Such customers will still be able to use their existing specialised applications, running under AIX for example, but will also be able to take advantage of the Apple interface and its "personal productivity applications", the group says. Apple will only run PowerOpen on its midrange and high-end machines, and entry level servers - it reckons the operating system is too complex for entry level desktop and portable users, who aren't interested in Unix anyway, preferring Microsoft's Windows or MS-DOS, and System 7. Apple says the PowerOpen Association is not simply developing PowerOpen application programming interfaces, but is also working on a PowerOpen kernel that vendors will be able to licence, and subsequently add value to.

COGNOS DEBUTS AXIANT OBJECT DEVELOPMENT ENVIRONMENT

Canadian software house Cognos Inc will introduce its next generation, enterprise-wide application development environment, Axiant, for Unix and Microsoft Corp Windows NT, at its user conference in Orlando, Florida this Tuesday. The company will also announce the formation of a new business unit to market, develop and support the tool. According to Cognos, Axiant is a graphical, object-oriented application development and deployment tool. It comprises an object-based repository, which stores objects, data, designs and the applications themselves. There is also an automatic code generator and an application deployment engine, which enables parts of an application to be deployed across different processors and under different topologies such as virtual client (batch and terminal-based), remote presentation and data management. Other features include concurrent access to multiple databases, including relational and non-relational data and support for multiple operating systems, graphical user interfaces and hardware platforms. At the client level, Axiant will run under Windows and Apple Macs, and server versions will operate under Unix and Windows NT. Migration paths from the company's existing PowerHouse suite of tools are available, Cognos says. Axiant goes in to beta towards the end of the year, and shipments are scheduled to begin by the second quarter of 1994. Unix implementations will be available first, with NT editions following later. Meanwhile, Cognos has also established a new business unit to house the Axiant software, called the Client/Server Tools Unit. The division, headed up by Cognos vice president, Peter Klante, is responsible for future product development, and sales and marketing.

ORACLE SETS VERSION 7.1 WITH

DATA REPLICATION AND PARALLEL SUPPORT

Oracle Corp introduced Version 7.1 of its relational database management system with added support for parallel processing and data replication at the company's international Oracle user week in Florida. Oracle, claiming to have taken the lead in the race to produce a commercial parallel server architecture, says Oracle Version 7.1 will provide the capabilities to enable a single SQL query to be decomposed and the parts executed across many different processors. Called the Parallel Query Option, the software automatically analyses SQL queries and decides which operations need to be executed and in what order. According to Oracle, this happens transparently so developers do not have to write special parallel code for their existing applications. By being able to break down individual queries in this manner, performance and transaction throughput is speeded up. For example, symmetrical multiprocessing systems, which have from 2 to 30 processors, can achieve performance improvements of up to a factor 30 running Oracle version 7.1, the company claims. However, despite the firm's claims, Oracle 7.1 will have to compete with a raft of similar products from other relational database suppliers. Sybase intends to introduce its parallel database, NavigationServer, by the end of the year, and Informix is expected to announce its plans in November (UX No 434 and 440). The parallel query option will be available first on multiprocessor and clustered DEC, Sun Microsystems and Sequent platforms in the first quarter of 1994, with IBM, NCR and Pyramid versions to follow. No prices have been fixed yet. Other enhancements to 7.1 include update anywhere data replication, which in effect mimics similar products from Sybase with Replication Server and Ingres' Replicator. The replication option of Oracle 7.1 will automatically maintain copies (replicas) of the same data on multiple distributed databases. This allows applications to directly update any of the copies of the replicated data across the environment. The replication facility goes in to beta test in the first quarter of 1994 and will be available in the second half of next year, Oracle says. Meanwhile, in another announcement at the conference, the firm also launched Oracle Office, an enterprise-wide office messaging system for client/server environments. Oracle Office is the company's first attempt at providing office automation software and the company plans to target IBM PROFS, DEC All-in-1 and ICL TeamOffice markets. According to Oracle, the software operates in a server-based architecture and includes a wide range of messaging applications including a calendar, scheduler, intelligent proofreader and directory services, as well as electronic mail. Client versions of Oracle Office will be available for Microsoft Corp Windows, Motif, Mac and character-based terminals. For interoperability with other mailing systems. Oracle Office also provides gateways to Unix Mail. X.400, Novell's Message Handling Systems and IBM PROFS. Oracle Office start to ship in November. No prices were given.

SOFTWARE AG PORTS TO NCR 3000, APPLE UNIX

Darmstadt, Germany-based Software AG is porting its Natural application generator, Adabas database and Entire network communication software to NCR Corp's System 3000 line. An initial offering will provide a direct interface between NCR's 3270 Agent and Software AG's Natural and will be available in the first half of 1994, enabling customers to continue using 3270 terminals, while migrating to Unix servers. And Software AG is port its software onto Apple's A/UX Unix multi-user server, Workgroup Server 95. The two will collaborate on development of Apple's Vital client-server architecture, and jointly market a Vital/Entire starter kit so customers can write Apple applications that "interface" with mainframes. Products are expected in 1994.

NETSTOR ADDS HP-UNIX VERSION OF ITS HIERARCHICAL STORAGE SOFTWARE

Minneapolis-based NetStor Inc has unveiled a version of its automated storage management software for Hewlett-Packard Co Unix systems. The hierarchical storage management software - with optional remote network migration tools - comes with automatic file migration, library management and high-speed back-up. A version for HP 9000 Series 700 workstations is out in November - the server edition is planned to follow in early 1994. Prices start at \$7,500. Under an OEM arrangement, NetStor is also integrating its software with Hewlett-Packard's OperationsCenter and OmniBack software, and Hewlett will market the thing as OpenView OmniStorage.

OBJECT MAKE IT INTO THE REAL WORLD AS SOFTWARE 2000 REDOES ITS RPG CODE IN SMALLTALK

By Chris Rose

Object Oriented Technology. See? Your eyes have glazed over already. It's got to the point where those three little words are getting a bit dull - object fatigue is setting in. But here is a tale of a software vendor completely re-casting its existing applications. A vendor, moreover heavily ensconced in the AS/400 world, writing large, industrial-strength financial management, personnel, materials management and environmental management packages - hitherto in RPG. The move is enabling it to offload a lot of the work from the AS/400, in turn enabling its customers downsize further. It is also enabling the vendor - Software 2000 Ltd - to make its offerings hardware-independent: it begins converting its applications for Unix and Windows NT next July. UK firm Software 2000 of Bourne End, Buckinghamshire has about 900 customers and big ones, including British American Tobacco, Whitbread, and Royal Mail. It reckons that 25% of its customer base has downsized from mainframes.

Envy/400

It is not, on the face of it, the kind of company that would be a natural bandwagon-jumper, nonetheless the first beta sites are already running the first Smalltalk-based versions of its applications. About 18 months ago the company decided that the way it constructed its applications was going to have to change. It was apparent that its customers were moving away from dumb terminals to personal computers and didn't want two pieces of hardware sitting on their desks. At the same time customers' expectations were changing - multiple layers of nested menus were out. These people wanted "nice" graphical user interfaces, icons, in particular they wanted the reduced training times that personal computer software appeared to offer compared with terminal-based applications. On the other side of the fence Software 2000 itself was looking for ways to speed-up development times and so the company began talking to Canadian company Object Technology International Inc about Envy/400, its Smalltalk-based development system. The result was that the company decided to re-write its 4m lines of RPG code, casting the monolithic applications into client-server based systems with around 95% of the code re-written in Smalltalk and running on the client, with the AS/400 relegated to the role of database server, hosting the rest of the application, still in RPG. The aim was to get applications out fast and make them maintainable. In the past it had taken two to three years to build a new application says Michael Hunt, the company's international vice-president. After that it took six to 12 months to write each subsequent release. Object oriented construction techniques promised to change all that so they put together a few prototypes and discovered that... there weren't any speed improvements. The learning curve had struck. It takes from four to six months for an RPG or Cobol programmer to come to terms with the changeover according to Hunt, and in the end about one in three do not make the change at all - Software 2000 leaves them writing in the good old high-level languages. Even once the programmers become object-literate it will be some time before the advantages begin to show: the benefits of the approach have much to do with object re-use and reliance on familiar frameworks and class libraries. Right at the beginning, of course there are no company-specific class-libraries; there are no re-usable objects to re-use: they have to be constructed from scratch.

Even now, with five users testing the new versions, many of the professed benefits of object technology will not become apparent until Software 2000 begins to have to maintain the code and can take advantage of the discipline that objects impose. Prototyping applications is, however much faster with the new system - good-looking drafts can, and have, says Hunt, be knocked up over the weekend. The other speed benefit that the company felt immediately is down to Smalltalk's compilation style. With RPG and, indeed with C++, compilation is a batch-type process either running in background, or in the foreground while the code-jockey makes a cup of cocoa. Envy/400, by contrast uses an incremental compilation process - lines are added as they are written.

It feels more like using an interpreted language says Hunt, and the time saved is not to be sneezed at. Meanwhile, moving the processing off the AS/400 has allowed the development of the requisite graphical user interface: the original personnel system had around 175 cascading menu items. The new one has 13 icons in three logical screens. Training times on the packages have been reduced from around two weeks to around two days says Hunt, admitting in passing that this will hit Software 2000 in the pocket since training is a nice little earner. The result of the process may be a little hard for IBM to stomach - offloading processing from the AS/400 means downsizing. Hunt warns against oversimplification, but suggests that in moving to the new applications, customers will be able to drop maybe one, if not two models of AS/400. Since most of the company's customers are using the bigger models, this represents a substantial saving. Against this is set the client software's preference for an 80486 personal computer with 12Mb of RAM and a 200Mb hard disk - costing around five to 10 times as much as the average dumb terminal. It is left as an exercise for the reader to calculate the cost-cross over point. Luckily for those customers who do not want to throw all their 5250s into a skip, the old and new software can co-exist with dumb tubes using the existing version of the software and personal computers the new. Both can share the same database, but the Smalltalk version simply ignores most of the RPG code sitting on the AS/400. Not only will the change in code construction lead to smaller AS/400s, it may lead to their complete absence.

Guilty secret

The previously mentioned open server strategy means that next July the company will begin turning the RPG core into C, or Cobol or something else, suitable for putting up on Unix and NT servers - likely candidates are Hewlett-Packard Co, Digital Equipment Corp and IBM's Unix variants, with support for Sybase, Gupta and Oracle relational databases. How easy is it to reproduce the database functions of OS/400 on these new systems? "Very easy" says Hunt. Most of his customers, he says, are more than happy with their AS/400s and do not want to switch to Unix, but in the back of their mind there is always that "what if?" question, and the thought of having a nice Unix safety net is a comfort. Finally we come to upgrades and maintenance - object technology's strong suit. At the moment new software is distributed on disk every six months or year. Under the new regime Software 2000 is planning to use Lotus Development Corp's Notes to send out just those objects that need tweaking. With the object-oriented approach, the code can be dropped in monthly or even weekly and since the executable Smalltalk code is actually loaded onto the personal computers at run-time, distributing the upgrades is not a problem. Development of the old RPG system will continue at least for the rest of this decade, says Hunt, but users will be offered "tremendous incentives" to switch, so he has no doubts about the incentive for the developer. IBM must be wishing now that it hadn't made the object-oriented architecture of the AS/400 and the 38 such a deep, dark and apparently guilty secret.

IBM SEEKS TO CAST THE RS/6000 AS THE IDEAL SYSTEM FOR THE MULTIMEDIA REVOLUTION

IBM Corp has enhanced its multimedia offerings for the RS/6000 with a series of announcements with third-party providers. IBM has announced AIX Ultimedia Services/6000, a set of software objects that supports audio and video formats from workstation and personal computer environments. The products are designed to facilitate the sharing of audio and video information, while helping Ultimedia Services/6000 support Motion Pictures Experts Group and Joint Photographic Experts Group and Ultimotion movies, with support for converting and playing Actionmedia - RTV2.0 - files. IBM has also licensed Intel Corp's Indeo video format for use on the RS/6000. Indeo video, also known as RTV2.1, is currently supported under OS/2, Microsoft Windows, and Apple System 7 operating systems. Indeo video will be integrated into a future release of AIX Ultimedia Services/6000, IBM promises. Users of multimedia on the RS/6000 will have access to more tools with the related announcement that several leading multimedia vendors will build upon the new IBM offerings. At the moment, Ultimedia can only be used to play and edit video and audio as well as record audio. It will be released on October 14, and costs \$150 for a single user licence. Applix Inc, of Westborough, Massachusetts, says it plans to use AIX Ultimedia Services/6000 to support audio and video files in its suite of ApplixWare desktop applications for the RS/6000 family. Sybase Inc of Emeryville, California, has announced a multimedia demonstration that will be included with AIX Ultimedia Services/6000. The demonstration, which was constructed using Gain Momentum on the RS/6000, is intended to illustrate the power of multimedia technology in the areas of remote customer service, retailing, training and education, and desktop sales. Insoft Inc, of Mechanicsburg, Pennsylvania, has signed a development agreement with IBM to provide an RS/6000 version of Communique, a teleconferencing package that supports collaboration under Unix. AimTech Inc of Nashua, New Hampshire, has signed a development agreement to provide an RS/6000 version of its IconAuthor multimedia authoring package. In addition to the new products, the Ultimedia Server/6000 product, demonstrated at Spring Comdex '93, is currently in beta shipment with customers. This multimedia server is claimed to be ideal for media-intensive applications where sustained record or delivery of 40 or more media streams is required. It works with OS/2 clients which can record and receive synchronised audio and video streams in a high-quality manner. The Ultimedia Server/6000 was named Best Multimedia Product at Spring Comdex.

IBM will deliver an X.500 global directory in its new AIX DCE Global Directory Server and Client for the RS/6000, to connect multiple DCE nodes together, and thereby providing a distributed, replicated directory database. The client version is £305, server implementations start at £2,752. The company will ship version 2.1 of its AIX High Availability Cluster Multiprocessing/6000 software on December 17.

At 90,000 Xstones, IBM Corp says its new PowerPC-based XStation 140 provides the same price-performance as the existing model 150. It comes with 4Mb RAM and 2Mb video RAM and priced from £1,900. A new 17" colour display for the RS/6000, the Powerdisplay 17 is also available at £1,437.

New graphics accelerators for the new PowerPC boxes are the 8-bit, single-buffered Power GXT100 and Power GXT150. The first supports a screen resolution of 1,024 x 768, the latter supports three resolutions: 1,280 x 1,024; 1,152 x 900, and 1,024 x 768. New Power Gt4i and Power Gt4xi are new midrange three-dimensional graphics accelerators. The 24-bit Gt4i, priced at £5,100, enables users to display up to 16.7m colours. The Gt4xi comes in 8-bit - £4,360 - and 24-bit - £6,750 - configurations. Both require two Micro Channel slots and can be used in the PowerStation 355, 365 and 375.

PENTIUM DELIVERIES "ON TRACK"

Intel Corp told **Reuter** that it is on track for delivery of its flagship Pentium microprocessors for the second half of the year and for 1994. Chief operating officer Craig Barrett said, "Pentium deliveries are precisely on track - we said back in the second quarter that we would get 10,000 units out and we exceeded that; we said in the second half of the year we would be in the 100,000 range and we are absolutely going to be there - and 1994 is still looking well over the 1m unit range." Bugs in some of the support chips should not delay expected deliveries of desktop computer systems based on the Pentium. "Practically every one of these chip sets comes out with some minor work-around bugs - that's what we're experiencing at this time."

ICL TO OPEN OFF-THE-SHELF OUTLETS IN EUROPE FOR STANDARD PRODUCTS

ICL Plc says it is in the process of establishing 20 new TeamCentre distribution outlets across Europe that'll deal specifically in client/server hardware and software solutions from ICL and third parties. The idea, the firm says, is to fill what it sees as an emerging requirement for products and services that fall between the need for custom system integration projects and off-the-shelf shopping. Often, ICL believes, customers want to buy a range of standard products, from a variety of suppliers, as well as expertise to help integrate them into existing system architectures. The company also plans to launch a new line of personal computers in two weeks' time that use low-power, low-radiation Intel Corp CPU parts - possibly 80486SL variants. The boxes will represent the first implementation of static processors in Europe, ICL claims - static processors retain their state without the need for refresh current, which means that they draw almost no power when they are not busy.

LEGENT MOVES INTO ORACLE DEVELOPMENT WITH PERFORMANCE TECHNOLOGIES ACQUISITION

Herndon, Virginia-based Legent Corp is buying again, though this time it is just a bit of infilling. It is picking up the 14-employee \$3m-to-\$4m-a-year Performance Technologies Inc, based in Boston, Massachusetts, which specialises in application management tools for Oracle. Legent can now provide customers with support tools for Oracle databases and applications as well as for DB2 and Adabas. The Performance Ace family comprises products for use in the design, build, test, production, and maintenance stages of an Oracle application development cycle: ACE Converter is for automated conversion of SQL Forms 2 to Forms 3. ACE Insight provides application-wide monitoring, tuning, and analysis. ACE Timer provides end-user timing information to monitor service levels of production applications; and ACE Tester is an automated application testing tool and debugger claimed to reduce testing and cost cycles by 50%. It has some 500 customers worldwide.

WORKSTATION MARGINS UNDER PRESSURE

Craig Sultan, the Montgomery Computer Systems analyst, says the workstation market will continue to be driven by new product cycles emphasising significant performance breakthroughs and price-performance improvements in raw microprocessor performance and in graphics. Gross margins in the industry could come under pressure as a result of increasing competition among the five workstation leaders coupled with the threat of Intel Corp's powerful Pentium processors and Microsoft Corp's Unix-like NT operating system. Montgomery expects to see very strong growth for high-end personal computer Superservers, which provide greater expandability, systems management software and fault-tolerant capabilities using standard personal computer components. The driving trends are consolidation of small servers, and the proliferation of departmental applications.

IBM AIX SUPERSERVER FOR ORACLE

IBM UK Ltd and Oracle Corp UK have announced they will jointly develop, market and support an Oracle Superserver - and released the first model, available in three configurations, last week. The new product is essentially a database server, comprising two Powerserver 990s running back-to-back under IBM's new High Availability Cluster Multiprocessing/6000 software to give a single system image. This results in 80% more transaction throughput than a single 990. The system incorporates 9333 Serial disk subsystems, runs AIX 3.2.5, IBM's Cluster Management Interface Tool, the Oracle7 Server database management system and Oracle Parallel Server. Existing RS/6000 rack-model customers will be able to upgrade to the new systems. Four 990-processor versions will be released in 1994 as will 'unirack' configurations, containing multiple processors. The Superservers will also be able to use IBM's new uniprocessors and symmetric multiprocessors, when these become available - the idea here is to convince users they will have an upgrade path should they need more power in future. Other databases will also be added later. The SuperServer will be available only in the UK as of January 1994.

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IBM Corp's new entry-level PowerStation 250, 25T, 25W and PowerServer 25S (UX No 455), are each rated at 62.6 SPECint92 and 72.2 SPECfp92. The Power2-based PowerStation and PowerServer58H is rated at 203.9 SPECfp92; the 590 at 242.2 SPECfp92; and the PowerServer 990, 126 SPECint92 and 260.4 SPECfp92.

There's going to be a Objex conference and exposition in Boston on October 18-22 that promises to be "engaging, motivating, a bit on the wild side and utterly pragmatic, and it has a speakers list that reads like a "Who's Who of Objects." +1 508 470-3880

IBM UK has introduced a Channel Management Partner accreditation scheme for RS/6000 and AIX resellers. The first to sign up are Computer Science Technology Ltd, Bytech Systems Ltd and Metrologie Ltd.

C++ pioneer and former president of TauMetric Corp, **Mike Ball**, has joined **Sun Microsystems Inc's** SunPro unit, which specialises in software development tools. He will guide the future development of SunPro's C++ development environments for Sparc and x86-based computers, and will head up the SunPro team helping to draw up an ANSI C++ standard.

IBM Corp will put its DB2 database up on HP 9000 series systems under HP-UX.

Ask Group's Ask Computer Systems won 112 licences for its Manman/XUnix-based manufacturing software during its last financial year - it estimates it'll do \$60m on the product this year.

National Information Systems Inc, San Jose, California, is shipping version 2.0 of the Accent STP Open Look-to-Motif source code translator, developed for it by Kovi Design Automation. Version 2.0 supports Motif 1.2, X11R5, SunOS 4.1.x and Solaris 2.x, and will translate between 80% and 100% of the C or C++ code produced by XView, OLIT or Devguide GIL files. Accent STP comes in four modules: Devguide, OLIT and XView conversion starting at \$5,000, WindowMaker GUI editor is \$1,500. +1 408 985 7100

The agreement between **ICL Plc's** North American sales division and San Diego-based **Xscribe Corp** entitles the latter to licences to resell and support ICL's enterprise-wide. OfficePower software and TeamOffice groupware as well as some other software and hardware products, previously distributed by the North American division. ICL ends up with 12% of Xscribe and Xscribe will nominate Jukka Norokorpi, ICL's vice-president for client-server systems, to its board. So now you know

Sun Microsystems Inc's SunSelect "would like to inform you of its policy regarding proper use of the Wabi trademark - "Wabi" is the name of the product, "Windows Application Binary Interface" is not, and should not be used, even in a parenthetical. "Wabi" is spelled with a capital "W" and is otherwise lower case. "Wabi" should not be presented in all capital letters, nor should periods be used in between letters.

Novell Inc has been talking money, warning that the acquisition of four companies in its fiscal third quarter will reduce operating margins, until the companies can be fully merged into Novell's business model. Chief financial officer James Tolonen told analysts that before the four acquisitions, Novell's quarterly financial model based on representative run rates, produced income from operations amounting to 39% of revenues - \$270m. Including the acquisitions, the model produces income from operations amounting to 33% of its \$292m revenues a quarter - operating losses among the acquisitions represent 39% of their \$22m aggregate turnover because of high research and development spend.

Following acquisition, **InfoCorp** is disappearing into **Computer Intelligence**, so Julie Rodwin, formerly program director of InfoCorp's Unix Systems & Applications Service has hired herself over to RM Fichera Associates, the strategic planning, marketing and training consulting firm in Groton, Massachusetts. Among other things, Fichera has been doing a lot of the RS/6000 sales force training worldwide. +1 508 448 2340

Silicon Graphics Inc chief executive Ed McCracken is co-chairing **Joint Venture: Silicon Valley**, a coalition of business, education, government and community leaders intent on revitalizing the Valley.

Business Week has found out the areas assigned to the 12 strategic taskforces that **IBM Corp's** new chief Lou Gerstner has created. They are: client/server computing, multimedia, mobile computers, networking services, other services (systems design, data processing, maintenance) hardware architecture (read Power), software architecture (read operating systems), application software, other software, semiconductors, customer satisfaction, competitive evaluation and distribution channels.

Uniface BV is integrating new graphical tools and databases into its application development environment: transaction processing and OSF Distributed Computing environment are also coming, along with Apple Macintosh versions of its software, by year-end.

Legent Computer Corp and **Hewlett-Packard Co** are working to develop systems management software that can control mainframe and client-server Unix environments (UX No 455); now **Tivoli Systems Inc** is joining the party. It is to supply administrative software so that system managers know who is using what and where.

The **Open Software Foundation** is to pass its Project Calvin testing framework to X/Open, where it will form a major part of X/Open's Commands and Utilities Test Suite. And OSF will add a DCE Audit subsystem, licensed from IBM Corp, to the next release of its Distributed Computing Environment.

SunSoft Inc complains that Unigram "editorialised" some of the conversations it had with us last week (UX No 455), claiming it is taking the heat for certain items that were for our ears only. We're sorry if we spoke out of turn.

In the negotiations with Novell Inc and the Big Three Unix vendors, **X/Open Co** explains, as far as it is concerned there are two reasons why the love match remains unconsumated. One, Novell's expectations weren't matched by the replies it got. Two, all the speculation, public bickering and leaks created bad feeling.

Meanwhile, **X/Open Co** is keen to stress it was more instrumental in the proceedings than it would seem: chief executive officer Geoff Morris did a round of one-to-ones with the CEOs of all X/Open board member firms, plus Novell Inc, to thrash out a framework acceptable to all parties. It is not best pleased that its efforts were embroiled in a messy - and what it believes premature attempt - to steamroll the project to a swift conclusion. Others say that X/Open is weighed down by its own shackles - users and ISVs don't want the group to do it, while board members DEC, Siemens and Olivetti are also against it (although DEC is willing to go with it). Any decision is reportedly down to X/Open chief negotiators, Mike Lambert and Bob Lewin: Lambert is keen to see the thing happen.

The close-down of **Unix International's** off-shore operations has reportedly cost members \$1.5m to date, with a reported \$940,000 also written-off by a cheque for the next 18 months rent. It was paid to the landlord owning the premises of UI's Asia Pacific operation in Tokyo, the responsibility for which apparently lapsed back to UI, after the tenancy period was personally guaranteed by former head of that unit, Yumio Imamura - he resigned back in April. UI European boss Scott Hansen is still winding down the operation from an office lent by ICL Plc's Benelux operation in Brussels.

Network Computing Devices Inc has appointed Lorraine Harriton as vice president of marketing, reporting to executive vice president. Judy Estrin: Harriton joins from VeriFone Inc.

ICL Plc will reveal its Dais object-oriented middleware development system in London this Wednesday (UX No 450): Dais is born of a ten-year European Commission Esprit project and will run on a range of Unix and non-Unix environments.

Joel Applebaum, former president of Univel, who **Novell Inc** chief executive officer Ray Noorda introduced publicly at his Unix strategy briefing at Unix Expo as the new vice president of development inside Novell's new Unix System Group, is out - and it doesn't look like he has a place to go, having turned down a move to a non-Unix position within Novell. Executive vice president Mike DeFazio picks up the development.

During the panel session on COSE at the Australian Unix User Group's big shindig last week, a question from the floor asked simply "Why COSE?" The DEC representative replied with the old Moslem saying, because "My enemy's enemy is my friend."

Hewlett-Packard Co's Workstation Systems Group general manager Gary Eichhom, one of "COSE Nostra" mob, has joined **SunSoft Inc** president Ed Zander in telling Unigram.X it won't go with UnixWare in any way, shape or form. He says he's explained the facts of life to **Novell Inc** chief executive officer, Ray Noorda.

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WAR OF THE WORLDS: IXI OFFERS UNIX-UNDER-WINDOWS PEACE SOLUTION

The deconstruction of the industry as we know it will continue apace this week: just when you thought one body of technical and ideological issues had been put cosily to bed, along comes IXI Ltd and turns the graphical user interface question on its ear. The UK, Cambridge-based subsidiary of Santa Cruz Operation Inc will this week unveil Win-tif, essentially an extension to its Motif graphical user interface (GUI) toolkit that modifies the appearance and behaviour of Unix-based applications, making them look and act exactly like Microsoft Corp Windows 3.1. Indeed for all intents and purposes, users will be running Windows 3.1. In reality they'll be using Unix applications brought to their personal computers from a Unix server over X Windows. Whilst the supply side of open systems movement is increasingly polarised against Microsoft - with Unix as its standard-bearer - IXI argues the real objective ought to be to deliver what customers have long been singing for - greater interoperability with Windows. Their calls (UX No 454), have fallen only on deaf ears so far. Win-tif will be supplied as an upgrade to the IXI Desktop graphical user interface (GUI) front-end, and will provide most applications that run under OSF/Motif 1.2 with what the firm is describing as a "Windows Friendly" front-end. ISVs won't need to re-code software - any application using IXI's Motif implementation, written to the toolkit, will become "Windows Friendly" when run through a PC. Win-tif installs a new shared library on the host Unix system - and adds extensions to the X server - IXI Desktop launches applications with either Windows 3.1 or Motif 1.2 look and feel and functionality, depending on users' preference, or on the automatic detection of which kind of desktop system is being used. Unsurprisingly, the concept went down like a lead balloon when Unigram ran the idea past major Unix vendors at Unix Expo a few weeks ago. The idea is not, however, to sell the stuff to Unix workstation users: "why turn a Unix machine into a PC?" says IXI president, Ray Anderson. The company is aiming Win-tif at users who want to retain their investment in Windows and use Unix without having to re-train users on a Unix front-end. Although bundled with a new version of IXI Desktop free of charge from early next year - existing sites will get an automatic upgrade - IXI will make money by charging a toll as users hook up PCs to Unix hosts running Win-tif, and through OEM sales. Initially Sun and SCO platforms, other Unix ports will follow, including a variant for HP's, own brand of Motif toolkit. IXI is getting up its own branding scheme and will award a trademarked "Windows Friendly" logo to ISVs which conform to the IXI Motif toolkit API, use the shared libraries to switch applications between Motif and Windows front-ends, and IXI's X server extensions. Win-tif includes bits of Microsoft's Object Linking and Embedding mechanism - IXI says there are no intellectual problems associated with what it is doing. Although, like SunSelect and Insignia Solutions Inc, it will have to track Windows' evolution closely, IXI hints that some of these issues should be resolved next year. The main problem will be maintaining conformance to the new Unix OS API and Windows style guide, at the same time, it says. IXI points to X Business Group research to back the case for Win-tif; the group forecasts that by 1996 up to 12m PCs will be X Windows-capable - 5m by the end of this year. Win-tif makes perfect sense from a business point of view: IXI's Desktop front-end is now established in all the right places and the firm is not likely to make much out of a COSE common desktop environment which will be aggressively marketed by the major Unix vendors. Moreover, it needed this. One large end user told us Win-tif is "extremely interesting," but said IXI should give-up its X server extensions to the X Consortium, fearful it might otherwise be tied to some proprietary baggage.

ICL DEBUTS DAIS OBJECT DEVELOPMENT SYSTEM

As expected (UX No 450), ICL Plc will introduce DAIS, a set of object-oriented tools and integration services for developing and deploying applications across distributed computing environments, at Object World in the UK this week. The software is derived from and supports ICL's Openframework architecture, which is the firm's systems integration methodology. It conforms to ISO's ODP (Open Distributed Processing) and the Object Management Group's CORBA specifications. According to ICL, the DAIS development is the culmination of more than 10 years of research and development by the ANSA (Advanced Network Systems Architecture) and the European Economic Community Esprit programmes. Other companies involved in ANSA such as Hewlett-Packard Co, DEC, British Telecommunications and GPT have also used the programme's research for their own developments. For example, HP has used parts of the ANSA technology in its recently announced ORB Plus product (UX No 456). In its simplest form, DAIS is designed to hide the system hardware, software and networking complexities of application development from developers by using object technology and transparent transport mechanisms. This means that developers can shield the business logic of an application without recoding, ICL says. Because DAIS automatically takes care of recompiling the integration parts of an application such as translating remote procedure calls to different system software and databases. It also allows applications to be deployed at a higher level of abstraction by using the interface definition language (IDL). This communication mechanism handles the trade off between the client and server side of an application. DAIS will be marketed as part of ICL's Openframework systems integration services, but other integrators will be able to licence the technology in the future, says the company. The software is currently in beta test and is scheduled for release in January. Prices range from £50,000 - £250,000 up, depending on the number of platforms involved.

AMDAHL KILLS ITS INTERNAL SPARC DEVELOPMENT EFFORT

As part of the on-going reevaluation of its business model and objectives, Amdahl Corp has decided to scrap development of its own Sparc RISC-based Enterprise and Workgroup servers which were due for introduction next month. In their place it will offer Sun Microsystems Inc's high-end SparcServer 1000 and SparcCenter 2000 systems which it signed to market on an OEM basis a couple of weeks ago (UX No 455), along with the new SparcCluster 1 NFS server (UX No 454). It expects to have its first orders filled within a month. Amdahl will sell the systems to its existing users - Sun says the two firms' customer bases don't overlap. Amdahl's now all-but-defunct Sparc development effort was a fairly cloak and dagger operation from the outset when, nearly three years ago, it killed its plans to build a supercomputer using the technology acquired with the failed Key Computer Labs for \$30m and instead focused on getting the input-output subsystem technology from that project up under Sparc (UX No 316). Amdahl said it became clear earlier this year - once its Sparc development reached the product implementation stage - that the company's internal restructuring would necessitate a painful make or buy decision. Once it realised that its products were already outdated and out-gunned by Sun's previously released top-end servers, it decided to buy rather than build. The decision to opt for Sun hardware was apparently not crystallised until after Amdahl had already agreed to port elements of its UTS mainframe Unix to Solaris and OEM a future, integrated version back again - see below. Indeed there wasn't even a Sun sales team involved the decision-making process, according to one source. "Now we've finally got something to sell," was how one relieved Amdahl executive described the latest turn of events. Amdahl stresses it had many Sparc development projects in the works - including the UTS-on-Sparc effort. Whether there will be any further home-grown initiatives on the Sparc architecture remains unclear. The possibility of Amdahl offering a Sparc-based mainframe is still an option, the company says, especially given the current preponderance of Japanese mainframe-builders for RISC-based Unix strategies - see page three. "We're taking a deep breath," is how the company explained its future options. Amdahl would not comment on how much the three-year Sparc development project has cost it, saying charges were made on an on-going basis, but it admitted that it was a double-digit million dollar figure. It is understood revenue from sales of the now-scraped boxes would have begun feeding into its next quarterly balance sheet and the firm decided to halt development now, rather than later, to prevent write-off costs going beyond the last quarter. What will become of Amdahl's UTS mainframe Unix is now even more unclear. Details on page three.

DCC-I WINS EC CONTRACT TO DO

ADA 9X FRONT-END FOR ANDF

As expected (UX No 450), the Commission of the European Communities has awarded a contract to develop an Ada 9X front end for the Open Software Foundation's Architecture Neutral Distribution Format (ANDF) technology as part of its Global Language support and Uniform Environment (GLUE) development project. Danish firm DDC-I Group, Lyngby, (also with offices in Phoenix, Arizona), will develop the Ada 9X front-end for GLUE, part of a \$16m European Open Microprocessor Initiative (OMI), which, sponsored by European firms and organisations, is seeking to design and develop a complete language support and software architecture based on ANDF. Etnoteam SpA of Italy is co-ordinating the OMI/GLUE project, partners include ANDF inventor the Defence Research Agency in Malvern - part of the Ministry of Defence; Harlequin Ltd, Cambridge; Inmos International Ltd, Bristol; and Micro Focus Plc, Newbury, Berkshire, of the UK. Others are OSF Research Institute, Grenoble, Compagnie des Machines Bull SA - both of France - and INSEC, Portugal. DDC-I gets \$1.3m to fund its Ada 9x project over the next three years - the ANDF front-end will be developed initially for the Solaris operating system running on Sun Microsystems Inc kit, for which DDC-I has already prototyped an Ada 9X compilation system. DDC-I Denmark +45 4587 1144. US +1 602 275 7172.

NETSTOR ADDS HP-UX VERSION OF ITS HIERARCHICAL STORAGE SOFTWARE

Minneapolis-based NetStor Inc has unveiled a version of its automated storage management software for Hewlett-Packard Co Unix systems. The hierarchical storage management software - with optional remote network migration tools - comes with automatic file migration, library management and high-speed back-up. A version for HP 9000 Series 700 workstations is out in November - the server edition is planned to follow in early 1994. Prices start at \$7,500. Under an OEM arrangement, NetStor is also integrating its software with Hewlett-Packard's OperationsCenter and OmniBack software, and Hewlett will market the thing as OpenView OmniStorage.

WANG TO OFFER OPEN/IMAGE FOR SUN SOLARIS

Wang Laboratories Inc and Sun Microsystems Inc have signed a joint development, sales and marketing agreement to port Wang's document imaging software, Open/Image, to Sun's Solaris 2 operating system. The product will be released in November. In a separate announcement, Wang also introduced Open/Image X Workstation for Unix workstations, personal computers and X terminals running the Open Software Foundation's Motif graphical user interface. Because the product has a native application programming interface, developers can create new imaging applications or add imaging capabilities to existing applications. Open/Image X Workstation will ship in November, costing \$500 for a single client licence.

WIND RIVER HAS GRAPHICAL DEBUGGING TOOL

Real-time embedded software specialist, Wind River Systems Inc, has released the latest member of its WindPower family of application development tools. The Alameda, California-based firm claims WindView is the first debugging and systems analysis tool on the market to provide users with a graphical display of the system event stream, high-resolution timing data, and event-logging for post mortem analysis. It runs on IBM, HP, DEC, Sun and Silicon Graphics workstations or PCs. These machines communicate remotely with the embedded system for which an application is being developed. The embedded system must run Wind Rivers Vxworks operating system. WindView costs from £3,300.

SOFTWARE PARTNERS/32's NEW STORAGE MANAGEMENT SOFTWARE

Topsfield, Massachusetts-based Software Partners/32 Inc has unveiled its new StorageCenter integrated storage management software for Unix. StorageCenter is intended to help systems managers look after the storage requirements of distributed heterogeneous environments. The product comprises four modules: Backup and Restore - available now at \$5,600 for 10 client machines; Media Manager - shipping in December; Hierarchical Storage Manager and Remote Administrator, both of which are scheduled for release in the first quarter of 1994. They run on Sun, IBM, Digital Equipment Corp and Hewlett-Packard Co HP workstations. Support for DEC's Alpha, Silicon Graphics Inc and Intergraph Corp boxes will follow in future. Customers can choose between an X Windows or Motif graphical user interface, and are provided with a C-based application programming interface, so that users can integrate StorageCenter with existing database and system management applications.

PYRAMID TECHNOLOGY AIMS TO CRASH THE MAINFRAME WITH NILE SERIES

Pyramid Technology Corp last week duly introduced those Jolt corporate superservers previewed back in June (UX No 442), calling the new line the Nile Series for public consumption. Pitched clearly at power mainframe users looking for something much cheaper, the Nile Series are symmetric multiprocessors that run the Mountain View company's DC/OSx Unix, and start with the NS150, which comes with from four to 16 150MHz R4400 RISC processors. Pyramid reckons it delivers 540 to 2,100 MIPS, with single system peak performance of 1,300 transactions per second - about twice the performance of the MIServer ES family. Cluster technology is designed to give near continuous availability during recovery after failure, and maintenance. A four-processor 150 with 256Mb memory, 10Gb disk and V.4-based DC/OSx costs £300,000.

HP HAS OPENODB APPLICATION INTERFACE FOR OILMEN

Following its agreement with the Petrotechnical Open Software Corporation (POSC), back in January (UX No 421), Hewlett-Packard Co has now delivered an application programming interface to its OpenODB object-oriented database for use by the 69 members of the oil industry group. The API, which includes POSC's Epicentre data model, will form part of the group's Software Integration Platform and will allow independently developed oil and gas applications to be integrated. HP will productise the API and model for independent software vendors next year. The Epicentre data model organises exploration and production information, and OpenODB can now also be used in conjunction with Step Tool's Step/Express data modelling language which POSC has standardised on.

NO RECOVERY IN 1994 IN EUROPEAN SOFTWARE, SERVICES, SAYS AUDOIN

Software and services companies in continental Europe have no reason to expect a recovery in 1994, particularly among those that rely heavily on professional services, says a report just issued by Paris-based market research firm Pierre Audoin Conseil. "The whole world is waiting for a recovery in information system services, but it should take two years to establish itself. Recovery has certainly begun to manifest itself in Great Britain and in certain Scandinavian countries. On the other hand, the crisis has begun to deepen in France, Italy, Spain and Germany. A recovery should not, therefore, be expected a priori in 1994," the report says. Jean-Francois Perret, managing director for Audoin Conseil, said recovery from the recession should occur between 1993 and 1995, with variations depending on the sector. Overall, the European software and services market saw its growth fall this year to between 2% and 3%, while some sectors, such as technical assistance have seen a decline of between 4% and 5% in 1993, he says. Furthermore, the market for industrial technical assistance declined 10%. France's professional services and systems integration market is expected to decline by up to 2 by the end of the year in real currency and 4% in nominal currency. This compares to the UK professional services market (including technical assistance, consulting and project realisations), which has seen 6% growth this year, compared with only 1% in 1992, Perret said. "The drop is very significant in the professional services sector, which carries a bigger weight here than in other countries," Perret said. The situation will have a direct consequence for companies like Cap Gemini Sogeti SA, which are heavily dependent on that sector. "In France, for the first time, CGS will lose its place as the leading software and systems house, to the gain of IBM-CGI Informatique and Sligos-Marben," says the report. Cap Gemini's "difficulties are temporary, but the group must confront the aggressiveness of a certain number of competitors, in terms of acquisitions."

STRATUS TAKES \$3.5m CHARGE UP TO 160 JOBS WILL GO BY YEAR-END

Pressure on computer manufacturers to cut costs is relentless, and Marlborough, Massachusetts-based fault-tolerant systems builder Stratus Computer Inc said yesterday that it will take a one time third-quarter charge of about \$3.5m to cover the cost of eliminating an initial 80 engineering and manufacturing positions, and for a similar number of jobs it plans to eliminate in other departments in the fourth quarter. The company said that despite the need to make cuts, it is pleased with preliminary third quarter results and expects them to be in line with its guidance, and expects its 1993 results to approach its current guidance, in spite of the one-time charge.

AMDAHL UTS MAY FADE AWAY COMPLETELY

What will become of Amdahl Corp's UTS mainframe Unix operating system is unclear. The firm has signed to port certain UTS features, those specifically tailored for high-end architectures, to Solaris, and to develop other facilities in conjunction with SunSoft Inc, Sun's software arm. The features include security, enterprise systems, on-line information management and systems management applications, some of which will be offered in Solaris, others as unbundled items. Amdahl is to OEM a future, integrated version of Solaris - which would have been employed on its now-defunct Sparc servers - but which will also appear on its Unix mainframes. Meanwhile, despite bullish claims to the contrary from executives of both firms, messages communicated by Amdahl sources last week indicated that UTS will eventually go away completely, its place taken by Solaris. The continuation of an independent Unix development effort was in any case regarded by many as an economically unviable task for a company in Amdahl's position. Strengthening the argument that a complete transition to Solaris is around the corner, Amdahl will later this month announce a Solaris version of its Huron mainframe application development environment. Amdahl firmly insists its Solaris-with-UTS bells and whistles collaboration with SunSoft is quite separate from the tripartite agreement between itself, sibling ICL Plc and parent Fujitsu Ltd, to develop a common Unix application development environment for their respective Sparc architectures. However, it admits the three, plus Sun, are now looking at ways of pooling their efforts.

SUN TECHNOLOGY BUSINESS GOES LIVE WITH ALL CPUs AND ASICs FOR SALES...

Sun Microsystems Inc's 400-person Sparc Technology Business (STB) unit is this week set to announce that it's going into the chip-selling business, peddling all existing and future Sparc chips and ASIC chip sets worldwide through its own recently created sales and distribution channel. The lines will be added to STB's current product lists of Sparcstation designs, Sparc board and Sparc CPU designs. Texas Instruments and NCR will continue to sell chips and ASICs respectively. Target customers include computing products and embedded applications. STB will be selling ASIC chips identical to those used in Sparcstation 10 and Sparcstation LX products. It will also have SX graphics chips, designed for Super-Sparc systems but not yet used by Sun. To complement the graphics chips, STB is also making available a new board design package that integrates SX chips with Sparcstation 10 technology.

...AS MICROSPARC II DEBUTS AHEAD OF SCHEDULE

STB will announce this week that it is ready to sample Swift, its Fujitsu-made 32-bit MicroSparc-II chip almost a calendar quarter ahead of schedule. Sun is holding back pricing until the widgets become generally available in the first quarter. It describes Swift as two to three times the performance of the original Tsunami chip. 70MHz samples are available. The 3.3-volt MicroSparc-II, based on a 0.5-micron CMOS process, features 16KB instruction cache and 8Kb data cache, each four times greater than its predecessor. It will deliver performance in the range of 51-63 SPECint92 and 43-56SPECfp92, while operating at 75MHz to 100MHz with existing compilers, Sun said. The company anticipates its use in laptops and notebooks. It supports Solaris 2 and systems like NetWare as well as the ASICs of its predecessor.

QUORUM HAS VERSION 1.2 OF ITS MAC-ON-UNIX ADAPTER

Quorum Software Systems Inc this week is supposed to announce the immediate availability of its Quorum Equal 1.2 Mac-on-Unix application adapter along with new licence packs, pricing and certified resellers. As part of its existing agreement with Microsoft, Quorum is to bundle Word 5.1 and Excel 4 with Equal 1.2 on a CD. Silicon Graphics will be bundling a 30-day license to Equal with Word and Excel on every new Indy computer. The new software reportedly boosts performance 25% to 30% over its predecessor and supports 24-bit colour and XINET K-A share file server software. It supposedly has more robust interoperability with X11 servers, hardware configurations and window managers. The company says startup/launch time, compute-bound performance and graphics are faster. Upgrades are free. 100-user packs will retail for \$48,650, a 30% discount off the \$685 single-user floating license. With Word and Excel bundled, the price will be \$97,125, a 25% off the \$1,295 single-user license. 20-user packs are \$11,120 or \$21,495 bundled. Quorum has picked up SGPlus and Transformation Software to market Equal in Europe. PTizan will carry Equal in Australia. In the US it has added Unix Central, VARcity, BAI and Inmac as certified channel partners. Equal still supports only Solaris 1 and SGI boxes running Irix 4.05IOP or Irix 5.1.

MONTAGE RELEASES "POST-INGRES" OBJECT DATABASE

Emeryville, California start-up Miro, now renamed Montage Software Inc, began shipping the first production release of its Montage object-relational database software in August, the commercialisation of the University of California's Postgres (as in post Ingres) research project. Michael Stonebraker who led the project is the company's chief technologist. Informix founder Roger Sippl is on the board. The product allows users to define, manage and analyse multimedia data types including video, audio, geographic information and images the same way programs (and it itself) accommodate traditional database information like text and numbers.

OPENVISION TO REVEAL "INNOVATIVE" PRICING STRUCTURE

OpenVision this week will be announcing its pricing structure for its distributed systems management solutions. Rumour has it the company will claim an innovative solution to the vexing problems posed by machine-class and user-based pricing - the bane of enterprise users. Sources say the OpenVision stuff will be priced as platform-independent solutions, meaning you pay the same price for a server system whether it's a Sparcstation or the largest Sequent platform. Evidently users love the idea, no more software taxes as they upgrade their hardware. OpenVision has also packaged its products directly for the client/server market, offering modular server and agent software packages that user can flexibly deploy based on their specific environment needs. By contrast, competitors require customers to place full applications functionality on every node to be managed in the network, an expensive proposition in large enterprise environments. OpenVision is also introducing a Value-Trade Agreement, another new twist. Customers who ink the agreement will be able to "trade in" any OpenVision product they buy for any other stuff from OpenVision with full trade-in value.

JAPAN'S BIG THREE MAINFRAMERS ALL PLAN TO MOVE TO PARALLEL RISC UNIX

All three surviving mainframers in Japan - Fujitsu Ltd, Hitachi Ltd and NEC Corp - are now planning a parallel RISC and Unix escape route for their mainframe customers, *Electronic News* reports from Tokyo. The intention, over time is to convert all their applications and all appropriate system software to parallel Unix. Fujitsu has settled on the Sparc RISC, and is talking in terms of a parallel machine using it in 1995 or 1996. Hitachi has reportedly not yet made up its mind whether to use the Hewlett-Packard Co Precision Architecture RISC for which it is a licensee, or adopt the IBM Corp-Motorola Inc PowerPC. NEC is sticking with the Mips Technologies Inc R-series RISC that it fabricates, and hopes to bring its first machine to market at about the same time as Fujitsu, if not sooner. In the meantime, all three are racing to cut the cost of their proprietary mainframe hardware by switching to CMOS from ECL - or in NEC's case CML - Current Mode Logic. NEC says its target is to cut the cost of manufacturing its mainframes by 75% by making the switch to low-power CMOS.

FUJITSU'S RISC PLANS INCLUDE 1GHz HYPERSPARC

Expanding on its plans further, Fujitsu Ltd says it will wind up its SparcRISC CPU - its Ross Technology Inc acquisition's HyperSparc - to 1GHz by 1996, and is to introduce new products, from desktops through to supercomputers, based on single and multiple Sparc chips as part of a new open systems strategy. The plan is thought to be aimed at arresting the decline of Fujitsu's system business, which if successful, could expand the Sparc market considerably: Sparc-owner, Sun Microsystems Inc, delivered 400,000 MPUs last year. Fujitsu's database servers, currently built on a proprietary architecture will move to Sparc, and the firm is said to have already sold a handful of AP-1000 massively parallel systems with up to 1,000 Sparcs. 1GHz Sparcs are destined for 10,000 Mips machines - 1,000MHz, 0.3 micron implementations should be reached by 1996. Fujitsu has Ross doing the 32-bit Sparc development, while its HaL Computers Ltd investment is working on 64-bit technology.

APPLE "TO LICENSE MACOS, HARDWARE"

Apple Computer Inc is changing its traditional way of doing business as it tries to fight off the increasing threat posed by Microsoft Corp's Windows operating system. For a start, it is getting religious about a CPU architecture, now encouraging other vendors to adopt PowerPC. This month, Apple's AppleSoft division will start developing and distributing its own applications. These will bear the Apple name rather than that of its Claris Corp software subsidiary, and will be targeted at areas where the company feels its system software is not being fully exploited. Applications will follow for QuickTime, OpenDoc, QuickDraw GX and PlainTalk. Apple was apparently driven to this decision because of the wealth of developers writing applications for Windows. Apple, meanwhile, has had a hard job persuading developers to create software for application programming interfaces found only in the Macintosh operating system. Now, in an attempt to encourage takeup of PowerPC, Apple is said to be offering other manufacturers a chance to license both its hardware and its operating system. In recent weeks, it has been trying to sell Apple-designed PowerPC-based systems to several companies that currently market Intel Corp-based personal computers. Apple is believed to have contacted more than a dozen personal computer vendors, including Austin, Texas-based Dell Computer Corp. Apple is keen for Dell to distribute the low-end, 50MHz PowerPC model it plans to introduce next March. But Dell is said to be more interested in higher-end PowerPC-based systems that could be marketed as servers - it reckons even those customers committed to using Intel-based machines on the desktop are willing to consider servers with other processors, if they deliver superior performance. Dell has not committed itself to Apple yet, although it has apparently agreed to further talks. Dell is also thought to be talking PowerPC server with Motorola Inc.

Partners

Any computers based on Apple designs will initially run System 7.1 - later they will support IBM Corp's PowerOpen implementation. Apple is expected to make its PowerPC designs compatible with PowerOpen groups hardware reference platform, also being developed by IBM. This will comprise a series of basic features that enable any compliant hardware design to run any PowerPC operating system. When it comes into play, clone companies will be able to provide customers with Apple hardware running a choice of operating systems, including System 7, PowerOpen, SunSoft Solaris, IBM's emerging Workplace OS, and a version of Windows NT that Motorola is developing under license from Microsoft. Furthermore, although Apple has been seeking licencees for the PowerPC version of System 7.1 for several months, it is now said to be offering potential partners various additional options. These include licenses for the application-specific integrated circuits it has designed for its new Macs, as well as logic boards or complete systems. Motorola may add Apple's application-specific integrated circuits to the line of PowerPC support chips it is already planning. Apple is also thinking about authorising third-party vendors, such as Radius Inc and MicroNet Technology, that currently supply peripherals and cards for the Macintosh, to build high-end Macintosh-compatible systems for specialised markets. It is debating asking either a new company or an existing supplier of personal computer components, such as Acer America Corp, to market Apple-designed parts to original equipment manufacturers.

BAAN ACQUIRES UK DISTRIBUTORS

Unix manufacturing software supplier, Baan International BV, has acquired its two main distributors in the UK, Agility Business Software Ltd and the Triton division of CEP Business Systems Ltd, out of which it will form a wholly-owned subsidiary, Baan International Ltd. Financial terms were not disclosed, but the purchase was funded from venture capital raised last year, when US investment company, General Atlantic, took a stake. Baan's distribution deal with Open Solutions will remain intact for the time being. The new organisation will have a staff of 28 and service between 25 and 30 customer sites. Management, sales and marketing will be based at former Agility headquarters in Bristol, Avon. Support services will also be offered from here and from CEP's office in Harlow, Essex. The aim of the move, Baan says, is to reduce confusion in the marketplace by offering a single direct point of sale, and to prove to customers it can provide them with adequate levels of support without needing to resort to headquarters in Amsterdam, Holland. Baan's ideal customers are corporate bodies, and corporate bodies like to buy from other corporate bodies, not distributors, it says - it's the comfort factor. In fact, as a result of establishing a direct presence in the UK, the group reckons it will add another 20 customer sites to its existing list and increase staff numbers to 40 by the middle of next year. It also believes it can double turnover to between £3.5m to £4m by the end of its 1994 financial year. It is likely Baan will stay firmly on the acquisition trail - it bought its US distributors last year, increased revenues from almost nothing to between \$10m and \$12m, and forecasts sales of \$40m for fiscal 1994.

NOVELL'S NETWARE MANAGEMENT SYSTEM

Novell Inc kicked off the big NetWorld show in Dallas last week with the launch of NetWare Management System Version 2. Describing it as cornerstone of Novell's management strategy, Novell says that version 2.0 is a comprehensive, centralised management system designed to enable customers to manage multivendor, distributed networks as an integrated system. The Provo, Utah company claims that with it, users can for the first time, manage services such as address management, applications and network analysers as well as devices such as hubs, routers, servers and workstations from a central console - and that NMS 2.0 is priced to ensure customers with all sized networks can benefit from its centralised management capabilities. It now distributes management services such as network analysis and mapping on NetWare, making it simpler for customers to manage remote resources, customise management policies and add management services as their networks grow, Novell claims. New service management features include distributed network analysis of device interactions, remote monitoring of critical services, IP and IPX address management, mapping of all devices, and built-in expert assistance. NetWare server, hub and router management, previously offered separately, are now integrated into the core NMS product. The company also announced NetWare LANalyzer Agent 1.0, and says that in combination with it, NMS 2.0 can remotely discover, monitor and analyse all Ethernet and Token Ring segments for "truly distributed network analysis". NMS 2.0 is out now at \$2,500; upgrading from NetWare Services Manager (Windows) 1.1 and LANtern Services Manager 1.3b to NMS 2.0 costs \$200. Novell also extended its NetWare Distributed Management Services strategy with the NetWare LS Software Development Kit. The NetWare Licensing System will offer electronic software licensing services that provide tools to manage software assets and monitor licence compliance in a distributed computing network, it says: the kit is designed to enable developers to write applications that take full advantage of the Novell licensing management services. It will be available this month to Novell's favoured and most capable software developers.

MARK WILLIAMS OFFERS COHERENT UNIX 4.2

The Mark Williams Co will release version 4.2 of its 32-bit Unix operating system clone for Intel-based personal computers in the next few weeks, and says it is aiming the product at the small business market. In the past, Coherent was sold mainly to personal users - individuals such as students that wanted to learn Unix, or to companies interested in using it as a training tool. The operating system could run only a very limited range of applications, but was cheap at \$100 for an unlimited user licence. To date, Coherent has an installed base of 60,000 customers. The company says it has made improvements to the kernel, including code to support a math co-processor and added floating point emulation. The Lake Bluff, Illinois-based company claims that Coherent now conforms to Intel Corp's binary compatibility standard, IBCS 2, which means it can run shrink-wrapped Unix applications, such as Lotus Corp's Lotus 1-2-3 and WordPerfect Corp's word processing package, native. The group has also added tape and print spooler support as well as a visual shell to simplify systems administration functions - such capabilities are intended to appeal to small business customers, needing systems for eight users and less. This market has traditionally been dominated by the Santa Cruz Operation Inc, but Mark Williams is convinced it can provide resellers with a cheaper alternative to SCO Open Desktop, which it doesn't believe is right for everyone - it reckons that with Coherent, dealers can move one price bracket down and so make bigger margins. A Coherent licence for one to four users will cost £100, and an unlimited licence, £250 or \$300. Customers can also buy the offering bundled with the X Windows graphical user interface for £150. OpenLook and Motif will also follow if their code comes into the public domain, but because Mark Williams says its main aim is to keep prices low, these options won't be available until then. Nonetheless, the group doesn't intend to stop here. Next, it wants to add networking capabilities to its product, but will do so in three stages. Over the next two to three months, Coherent will support serial IP protocols. This means personal users will be able to access such global networks as the Internet via a modem. In between three and five months time, customers will be able to hook Coherent up to an Ethernet network, so it can either operate as a file server or interact with other file servers. And in about six months, the firm will offer binary compatibility with various X Windows versions of shrink-wrapped applications. Coherent is sold by Kingston-upon-Thames-based distributor, Microway Ltd, in the UK, via mail order catalogues and resellers elsewhere.

MICROSOFT LAUNCHES HERMES ON ITS WAY - WITH ICL'S HELP

Microsoft Corp now says that it will launch the Hermes desktop management and software distribution package in the first half of 1994, positioning it both as an end-user product and as a set of technologies to be licensed to others. It has won testimonials from 23 vendors intending to use it. Microsoft splits these into three groups: "Enterprise product vendors" including Computer Associates International Inc, Digital Equipment Corp, Hewlett-Packard Co, Infonet Ltd, Legent Corp, NCR Corp, Netlabs Inc, Ing C Olivetti & Co SpA and Siemens Nixdorf Informationssysteme AG, will use Hermes' desktop management abilities to complement their existing systems managements software. "Companion product vendors" will use Hermes' software distribution capabilities to bolster their miscellaneous products: these include Compaq Computer Corp, Microcom Inc, Synoptics Communications Inc and VisiSoft Inc. And software resellers including Corporate Software Inc, SoftMart Inc, Software Spectrum Inc and 800-Software may use it to implement off-site support centres and help desks, detailed planning reports, automatic upgrade distribution and automated billing. Hermes by itself takes software inventory of, and does distribution and installation to, MS-DOS, Windows and Windows NT clients. Network applications can be configured and the network manager can also collect a hardware inventory. Hermes-equipped NT management stations will also be able to take control of MS-DOS and Windows clients remotely, useful in helpdesk work, but NT machines will not be able to control each other in the first release since this would invalidate C2 security. Microsoft is using an agent conforming to the Desktop Management Task Force at the client end, with data being deposited into an SQL database that third-party applications can access. The most notable absence from the group of well-wishers is ICL, which is co-developing the technology with Microsoft - an oversight, say the two. ICL developed the base technology used by Hermes to transport software.

OSF MICROKERNEL CAN RUN UNIX SVR4 APPS

The Open Software Foundation has made the first snapshot of source code for a new microkernel version of its OSF/1 operating system available to members. In the fullness of time, release 1.3 will incorporate the common Unix application programming interfaces announced by the industry last month (UX No 451) and conform to the same data link interface specifications for writing device drivers as Unix SVR4. It will also share a new set of library semantics with SVR4. This means that users will be able to run applications written for OSF/1 under SVR4 and vice versa. The operating system will be 64bit, but will be backwards compatible with OSF/1 Release 1.2, so customers can still use their 32bit applications. The finished product is due for release in summer 1994, but two more snapshots will appear before then.

ANDATACO SNAPS-UP XCELERATED

An undercapitalised Xcelerated Systems Inc has been acquired by Andataco, reportedly the largest reseller of Liken, its Mac-on-Unix emulator. The acquisition, which Andataco says it "paid the least possible amount for," may create channel conflict for other Liken resellers unwilling to do business with Andataco. Andataco itself recently lost its Sun authorisation and is now selling HP and Axil machines. Most of Xcelerated's 23 staff have gone over to Andataco with Xcelerated founder Dave MacMillan now functioning as Andataco's software manager. He is responsible for Liken, which he claims will benefit from Andataco's superior financial resources, as well as Andataco's other software products, its fax and SCSI disk array manager. Xcelerated's president Ray Wagstaff is now Andataco's chief financial officer.

WYSE HAS NEW 486 SERVER

Wyse Technology last week introduced a new 33MHz 486-based entry-level server, the uniprocessor Series 3000i Model 350, targeted at small workgroups. Although the thing is certified to run NT as well as MS-DOS, Windows, Windows for Workgroups, UnixWare, NetWare, Solaris and Banyan Vines, Wyse is offering it pre-installed with SCO Unix, offering a special promotion of an unlimited license for the price of 16 users until the end of the year. Of course the box is actually for 8 to 16 users but can support 32. It carries 8MB of RAM expandable to 32MB, 8KB internal cache with 256KB secondary cache and 500MB SCSI expandable to 2GB. Prices start at \$3,520.

ACCESS GRAPHICS FORMS NEW SUN HARDWARE AND SOFTWARE SALES DIVISION

Sun Microsystems Inc's key US distributor, Access Graphics, has formed a new Sun Systems and Software Solutions marketing business unit to provide targeted on high-end solutions for VARs in the commercial and technical/graphics arenas under the unit's newly created vice president Laurie Carlson. It intends to blend the hardware with third-party software usually sold direct to end users, especially databases and customer management solutions, and enterprise connectivity products from Sun Technology. VAR recruitment and training are major components of the launch. Meanwhile, Access has arranged to distribute Oracle on Solaris hoping to capture a piece of the commercial Unix applications market.

ASK UNVEILS OPENROAD DEVELOPMENT TOOLS - INGRES FOLDED BACK INTO PARENT GROUP

The ASK Group unveiled a new family of application development tools, called OpenROAD, last week in a move to provide a more cohesive product portfolio for customers. The company also announced that Ingres, the parent firm's database and tools subsidiary, will no longer operate as a separate entity and all operations have been spun back into The ASK Group. According to Ian MacDonald, ASK's UK development tools and desktop products marketing manager, existing and future products will now be prefixed with the ASK name, but the Ingres relational database product will remain unchanged. The OpenROAD Rapid Application Development family of tools is designed to provide users with a next generation of graphical development tools that enable them to maintain, deploy and control applications across distributed computing environments, MacDonald says. OpenROAD will initially include a new version of Ask Windows4GL (3.0), with added support for object-orientation. These object features include: inheritance, polymorphism, encapsulation and reuseability and object services, which allow objects to be passed across a network and enable them to be accessed from different applications and platforms. Version 3.0 also provides links to relational databases including Oracle, Sybase and Informix's via ASK's own Ingres gateways, Microsoft Corp's ODBC drivers and by interfacing with different on-line transaction processing monitors, including Tuxedo and CICS. Windows4GL supports a variety of different operating systems including Unix, IBM's OS/2, Microsoft's Windows and Windows NT, and Apple Macintosh. It is scheduled to ship next April, the company says. Other OpenROAD development tools will also be introduced over the next six to nine months. They include an object-query editor, a data model editor and an automatic code generator.

D&B SIGNS SLIGOS

Sligos SA, Paris and Dun & Bradstreet Software have signed a sales partnership agreement in which Sligos will market Dun's Millennium and Open Millennium accounting and financial software and SmartStream decision support software to its large corporate accounts. The two will create mixed sales teams, in which Sligos will supply systems integration, project management, system piloting and prototyping expertise, and D&B will bring its knowledge of the architecture of the proposed systems, their installation and user training; D&B Software France did \$26.8m in 1992.

INTEL EMBEDS THE 80386

The basic 80386 architecture has a bright future well into the next century, following the announcement by Intel Corp last week that it is ready with versions of the chip for embedded applications - anything from adding intelligence to a washing machine to looking after the vital signs of an auto engine. The company is already sampling the 80386CX, and it will go into high-volume production in 1994. An 80386EX variant, which includes peripheral circuits that make it more easily integrated by users of Intel's older microcontrollers, will follow at the end of next year. The parts will cost between \$20 and \$40 a time, and many will no doubt find themselves running Microsoft at Work in copiers and such; they succeed the 80186.

EUROPEAN ROUNDUP

At next week's Munich Systems Fair in Germany, **Siemens Nixdorf Informationssysteme AG** will unveil new additions to its Mips Technologies Inc RISC-based mid-range RM series of Unix systems. Also at the show, **Sun Microsystems Inc** will announce another manufacturing software package for Solaris, possibly SAP AG software.

Alameda, California-based **Servio Corp** has appointed **WM Data Systems**, Stockholm, Sweden, to distribute its Gemstone object database management system in Scandinavia. Meanwhile, in the UK, Servio and Manchester University have jointly devised a training course for developers using object-oriented programming and object database technology. The first of these will start in November.

IBM Spain can now pre-install SCO Unix system software on PS/2 servers.

Rhys Torrington has been appointed open systems manager at **Bull HN** in the UK.

Sun Microsystems Inc's printing and imaging unit, SunPics, has adopted Wokingham, Berkshire-based **BDS Computer Plc** as UK master reseller of its printing systems for Sparc-based systems.

Newbury, Berkshire-based **Unique UK Ltd** is in the process of porting its Concept 4 to Beaverton, Oregon-based **Sequent Computer Systems Inc's** Unix servers. The two will also co-operate in marketing and supporting the bundled products.

According to the **Software Publishers Association**, US software firms sold \$413m worth of product into Europe in the second quarter of 1993. This amounted to a 10% increase in revenues or 55% growth in unit sales on the equivalent period last year.

Manufacturing software house **Avalon Software Inc**, Tucson, Arizona, has new European headquarters in Brussels, Avalon Software Europe +322 252 2337 - and established a UK operation in Bracknell, Berkshire - Avalon Software (UK) Ltd +44 344 306006.

Learmonth & Burchett Management Systems Plc has signed up Paris, France-based **ECsoft SA** to distribute its Windows-based development tools in France. It will also sell LBMS' new Systems Engineer 5.0 when this is released in the fourth quarter.

Advanced RISC Machines Ltd will describe the ARM 7 RISC this month.

Siemens-Nixdorf Informationssysteme AG's Siemens Nixdorf France says it plans to cut just over 500 of its 1,700 employees by the end of 1995. The move is aimed at helping the unit return to operating breakeven from the financial year ending September 30 1994; it expects an operating loss before exceptional items of around \$53m for the year just ended. Most of the job cuts will be made in the year just started, in the one just ended, the company shed 290 jobs.

Atlanta, Georgia-based, **Dun & Bradstreet Software Inc** says it will make SmartStream 2.0, its client/server decision support and financial and accounting software available on IBM RS/6000 and ICL DRS6000 workstations. IBM version of D&B's software should be available by the beginning of next year and an ICL implementation will follow in the second quarter.

Contour Microsystems Ltd, a wholly-owned subsidiary of Milpitas, California-based **Contour Computer Services Inc**, has opened a new service facility in Livingston, Scotland, which will increase its Sun Microsystem Inc workstation repair and component warehousing space from 1,200 to 4,800 square feet. The new site will service the whole of Europe.

London-based **Custom Business Systems Ltd** is trying to get in touch with UK users of Esix Unix, developed by the now-defunct Everex Systems Inc. James River Group Inc, Minneapolis, now owns Esix - Custom is the UK distributor of Esix V.4, which costs £800. +44 71 323 2297.

Lucky Goldstar International's Logix Technology Europe unit, is to distribute the NeXTstep environment in Europe. **KPMG Peat Marwick McLintock** is using NeXTstep in systems integration work and plans to develop reusable object libraries for it as well as specialised object kits based upon it telecommunications, health-care and financial services markets.

Croydon, Surrey-based UK network workstations manufacturer, **Future Computers (Systems) Ltd**, is now offering Santa Cruz Operation Inc SCO Open Server and Novell Inc's Server Edition of Unixware on its 66MHz 486DX2 Unix multi-user systems and servers. Prices start at £4,900.

Unisys Corp is to market Oracle Financials across Europe.

The three member companies of UK-based **The Interchange Group Ltd - Optim Computers Ltd, Interchange Computer Services Ltd and Interchange Communications Ltd** - are merging to exploit each other's customer bases. The move comes 18 months after the formation of the group - the companies have taken an investment from the directors and venture capital backing from 3i Plc for the merger, which sees them retaining their total of 120 staff and sites in Newport Pagnall, Coventry and Flitwick. The group has expertise in the RS/6000 sector, customer support software, networking, cabling and maintenance.

TGV Inc, developer of MultiNet and MultiWare communications software for OpenVMS users, has signed **MultiCom Systems GmbH**, based in the Zurich area, to distribute and support its products in Switzerland: TGV, based in Santa Cruz, California, says it now has representatives in every European country.

Andover, Massachusetts-based **SoftLinx Inc** has launched Replix, a facsimile management system for Unix networks, into the UK. It runs on Sun, HP and IBM workstations, with an SCO Unix port planned. Replix is available from Fareham, Hampshire-based **Fontware Ltd**, and costs £600 for a single user licence, £2,400 for a network licence.

Version 4.2 of **Mark Williams Co's** binary-compatible Unixlike operating system, Coherent, is being marketed in the UK by Kingston-upon-Thames, Surrey-based **Microway Europe Ltd** at £150, including X Windows system, or £100 without. Coherent requires 10Mb disk and 1Mb RAM to operate. +44 81 541 5466.

San Mateo, California-based reseller **Qualix Group Inc** is to distribute Munich firm **iXOS Software GmbH's** iXBuild, iX-View/SQL and iXOS Frame Merger Unix software development packages in the US. +1 415 572 0200.

ICL plc's chairman John Gardner has left the company he joined 18 years ago: group executives Ninian Eadie and Richard Livesey-Haworth are tipped to replace him.

Meanwhile, **ICL's** DRS6000 Model 300 is now available with a 40MHz SuperSparc and up to 512Mb RAM.

Thomson-CSF SA's Alslys Inc has announced TeleUse/DB 1.0, which enables developers to build Motif graphical user interfaces for database applications. It is priced at \$2,000 on Sun boxes with Sybase Inc database - Oracle, Ingres and Informix versions will follow.

The Petrotechnical Open Software Corp - POSC - has signed **Cap Gemini Sogeti SA** to provide POSC standards-based support services to the oil industry.

Interactive Development Environments Inc's C development environment can now be used in conjunction with **Hewlett-Packard Co** SoftBench CASE system on HP and Sun platforms.

Tadpole Technology Plc has appointed Geoffrey Burr as president of its US subsidiary, Tadpole Technology Inc. He was formerly senior group manager at Digital Equipment Corp's personal computer business.

BULL LAUNCHES NEW POWERPC, POWER2-BASED DPX/20s

Compagnie des Machines Bull SA has added six new DPX/20 variants of IBM Corp's RS/6000 to its product line - variants based on the new PowerPC 601 and Power2 microprocessors. The new boxes will all be manufactured by Bull in Angers. The group has also extended its portfolio of distributed computing software integration tools, and declares its distributed computing model is now almost complete. Furthermore, it says, it will no longer rebadge the BOS/X operating system - henceforth, it will be simply called AIX to reduce confusion in the marketplace. The new machines are the Model 155 compact desktop server at £7,523; the Model 150S server and the Model 155W workstation, both costing £5,948. All are based on 66MHz PowerPC 601 chips. Bull also has three new models incorporating the Power2 chip - the Model 680 deskside server is based on a 55.6MHz Power2 and costs £62,711; the 690 deskside server uses a 66.6MHz chip and is priced at £76,979; and the Model 890 rack-mounted server, which sports a 71.5MHz version of the chip, costs £122,362. The new machines will start shipping in November, and current DPX/20 users can upgrade by simply slipping a new card or chip into the motherboard into their existing boxes - 210 series customers can move to the 155; 260 series users to the 680 or 690; and 800 series users to the 890.

OBJECT BROKER CHOICE MADE - OMG DESCRIBES BUSY WORKLOAD

The Object Management Group will issue a Request for Technology for Common Facilities - distributed compound documents - in December or January. The facilities will act as a common object interface on top of the Common Object Request Broker Architecture. Likely contenders include Microsoft Corp's Object Linking and Embedding, OpenDoc and Lotus Development Corp's LEL Link Embedded and Launch-to-edit. The Group is also working on the second version of Object Services, which will include an object interface for transaction processing. It said it received 22 responses to this Request for Technology and expects the specification to be ready by April or May next year. Lastly, OMG reckons the CORBA 2 specification for interoperability will be complete by August or September next year (UX No 450). Products should start appearing about three months later, it says. And it added, it has already chosen a suitable object broker for CORBA 2. But because it needs to finalise legal details, an announcement will not be forthcoming for the next couple of months.

...INCREASES END-USER INPUT FOR CORBA SPEC

The Object Management Group is trying to increase end-user involvement in determining the specifications for its Common Object Request Broker Architecture - it has not only come under pressure to do so from users, but also needs to build a co-operative relationship with Microsoft Corp, which is developing its own object technology, but has not actively committed to CORBA - OMG believes that customer demand is the only effective way to pull the company into the CORBA fold. In the past, OMG's end-user Special Interest Group (SIG) had only one vote on the technical committee. This committee evaluates proposals and then makes recommendations on emerging standards to OMG's board of directors. Henceforth, end-users will have a seat on this board, which votes on whether a given standard should be implemented. The board bases its vote on the recommendations made by the technical committee. In future, SIG will also evaluate the emerging standards to see if they meet end-user requirements. Such work is likely to be carried out in parallel with the technical committee. SIG's recommendations will be submitted to the board and given the same weight as the technical committee's comments. The board will vote on these proposals in December.

POWEROPEN DENIES POWEROPEN KERNEL

The PowerOpen Association says it has neither the cash nor the resources to build a PowerOpen kernel (UX No 456) - its role is simply to provide vendors with documentation and ensure that their software complies with PowerOpen specifications. But it did add that the majority of its sponsor members have now received the application programming interfaces (API) and application binary interfaces (ABI) needed to make their software PowerOpen-compliant and have, as a result, started development. The specifications should be commercially available in the first quarter of 1994 - the Association is simply waiting for both the Open Software Foundation and Unix Systems Laboratories to approve the API's added to IBM Corp's AIX 4.1 in the wake of the common Unix API announcement (UX No 451). Their comments, along with the PowerOpen Association's, will then be submitted to X/Open for approval in November. The first products are expected in the first half of 1994. PowerOpen says it is also currently reviewing System Verification Test Suites from about 100 vendors. This software will be used to check whether both applications and operating systems meet PowerOpen specifications and are binary compatible. PowerOpen Association members will pass their comments to the board any day now, and the board will announce its choice of vendor in the next 30 to 60 days.

INSIGNIA LAUNCHES SOFTWINDOWS RIVAL TO SUNSELECT'S WABI

Insignia Systems Ltd has launched SoftWindows, a product that enables Unix users to run Microsoft Corp's MS-DOS and Windows applications and utilities on their workstations (UX 455). UK general manager and vice president of engineering, George Buchan, sees the situation as this, "Workstation users have traditionally been isolated from corporate PC-based IT systems, but the rapid growth of workstations in business environments demands solutions for running commercial and in-house custom Windows applications on non-Intel hardware". He describes SoftWindows as a personal computer within a Unix box - so, if for example, you want your personal computer to talk to or share information with a Unix machine, he says, SoftWindows makes it think it is simply talking to another personal computer, providing you with "a virtual Windows desktop". SoftWindows essentially comprises 80% emulation software and 20% translation software, which the High Wycombe, Buckinghamshire-based firm claims, enables applications running on an entry-level RISC-based workstation to run at the same speed as on a 25MHz 486 personal computer. Release 1.0 conforms to the Win16 application programming interface, which means it can run both Windows and MS-DOS applications. It also includes Windows device and source drivers; supports Microsoft's Object Linking and Embedding and Dynamic Data Exchange technology; provides client support for Novell Inc NetWare, LAN Manager, OS/2 and various Unix file servers; and will be available on Hewlett-Packard Co and Sun Microsystems Inc machines from December. Ports to Digital Equipment Corp, IBM Corp and Silicon Graphics Inc workstations will follow in March 1994, and a single user licence will cost £400. Initially, Insignia says, it intends to ask the various workstation vendors mentioned above to bundle a full-function demonstration copy of SoftWindows free-of-charge with their systems. If after 30 days, customers want to buy a licence, they then go back to the vendor, to a distributor or to Insignia itself. Release 2.0 of SoftWindows is due out in about six months time. It will have "full Win32C compliance", which means it is optimised for Chicago or Windows 4.0 applications, although it will also run a range of NT, Windows 3.1 and MS-DOS packages too. The product, code-named Red Baron in response to Wabi's supposed Snoopy tag, will include Bristol Technology Inc's Wind/U-32s toolkit. This recompiles and links Windows source code with a Wind/U library to generate Unix versions of an application. Such programs have the same functionality and performance of the original Windows application, but with a Motif look-and-feel.

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Following agreement between the COSE firms on the cross-licensing of their respective common desktop environment (CDE) component technologies, the first CDE binaries are expected to be available at the forthcoming CDE Developers' Conference in San Jose, between the 26th and 28th of this month. A CD-ROM with Solaris, AIX, HP-UX, SCO and USL CDE binaries will be offered to delegates by at least **SunSoft Inc**, **IBM Corp**, **Hewlett-Packard Co** and **Santa Cruz Operation Inc**.

The **X Performance Characterization** group has introduced a new benchmark, **Xmark93**, which provides a standardised method for comparing the performance of different Xserver and hardware systems. **Xmark93** also offers a standardised means of summarising **X11perf** results, thereby supplying a single-number measure of overall **X11** server performance.

AT&T Co's NCR Corp is offering early retirement incentives to 5,500 of its employees who are 50 or older and have at least 10 years' service with the company in a move to cut operating costs. The company currently employs 27,000 people; those accepting get a \$30,000 lump sum payment and health benefits; they must go by January 1.

NCR Corp is now offering the **Next Computer Inc NeXTStep** environment on its System 3000 series: several large users - including **Chrysler Corp** which has just ordered a boatload of NCR kit - want to tie their **NexStep**-based Intel Corp machines in with NCR Unix systems.

Digital Equipment Corp will release a bridge between Microsoft Corp's Object Linking and Embedding technology and the Object Management Group's Common Object Request Broker Architecture in January 1994.

Computer Associates International Inc has a prototype native Unix version of its Superproject project management software running on Sun workstations. CA used **MainSoft Corp's MainWin** software developers kit to convert it from the original Microsoft Corp Windows version. Customers can opt to keep the original Windows look-and-feel or go for a Motif front-end.

Sun Microsystems Inc estimates its revenue per employee at around \$325,000 - that squares up with **Hewlett-Packard Co's** \$200,000, **IBM Corp's** \$208,000, **DEC** \$153,000, **Microsoft Corp's** estimated \$261,000 and **Apple Computer Inc's** \$471,000.

Adobe Systems Inc's **PhotoShop** imaging software, which allows users to input and edit images on their systems, will be up under Solaris from next month.

Oracle parallel server will soon be up on the **SparcCluster 1** says **Sun** - other parallel database implementations will follow, then the stuff will go on to the **SparcServer 1000** and **SparcCenter 2000**.

Sun's **Wabi 2.0**, with OLE, DDE and other Windows-compatible network calls should be around by the end of the first quarter of next year, according to the company. **Wabi** for Solaris 1.x (SunOS 4.1.x) is also being cooked-up, sources say.

SunConnect will announce some additional tools for network monitoring and the like later this month.

Ye gads! We gave **Dave Packard** credit for starting **Hewlett-Packard Co** in his garage when it was **Bill Hewlett's** all the time.

NEC Corp last week said from Japan that it will port **SunSelect's** **Wabi** to its **EWS 4800** Unix engineering workstation next year. It also says that **Fujitsu Ltd**, **Toshiba Corporation**, **Hitachi Ltd**, **Mitsubishi Electric Corporation** and **Oki Electric Industry Company** are also expected to port the stuff to their workstations.

Sun Microsystems Inc has named **Bill Coleman**, once vice president, systems software over at **SunSoft Inc**, as vice president and general manager of its 11-month-old **SunIntegration Services** unit, the organisation created to develop and implement rightsizing solutions. It has also enlarged the management team by adding **Bill Hodgins** as director, business development, **Bruce Hoiem**, director, technology and **Al Koyanagi**, director, consulting services.

IBM Corp is going to distribute **Gradient Technologies' Windows-to-DCE** integration software PC-DCE under a new agreement announced last week. **IBM** claims it expects wide adoption of DCE among its customers and needs to interoperate with the desktop. **Gradient** has similar relationships with **Siemens Nixdorf**, **Bull** and **NCR**. **Gradient** also picked up some other business from **IBM**. They're going to jointly develop a license management scheme for **OS/2**, **DOS** and **DOS/Windows**.

The **X Business Group** has taken us to task over an item we ran last month (**UX No 454**) that gave **Hewlett-Packard** leadership in both units and revenues in the **X** terminals market. Good grief, that's not right. **HP** is ahead in revenues but **NCD** is still ahead in units. The **X Business Group** figures that in the first half of 1993 **HP** had 19% and **NCD** 24% of the 133,803 units that constituted worldwide shipments. **HP** got 23.7% of the all the money (\$308.9m) to **NCD's** 21.7%.

Our sources say **Kevin Melia**, acting president of **SMCC**, **Sun's** hardware arm, turned down the job three weeks ago for personal reasons leaving **Sun** chief executive officer **Scott McNealy** out beating the bushes for a full-time replacement. Meanwhile, **Sun** stock has taken another hit following the results it posted for the last quarter. Our understanding is that they recorded half their orders in the last week of the third calendar quarter. **Wall Street** analysts call it another "lousy order quarter" and since the last three or four were about the same, hold it up as proof **Sun's** order rate has plateau'd.

Unix Expo claims to have had 358 exhibitors and 31,501 attendees only - no exhibitors in that count which broke out 62% corporate, 38% resellers.

Novell Inc has dropped sponsorship of the upcoming **Unix Perspectives** get-together that was the brainchild of **Unix System Labs** before the acquisition went through. Now it all rests with its organisers **Digital Consulting Inc**.

The demanding 19th International Conference for the Management and Performance Evaluation of Enterprise Computing Systems is set for December 5-10 at the San Diego Marriott Hotel & Marina in California.

Motorola Inc will launch the next member of the **PowerPC** family, the **PowerPC 603** for battery-operated laptops and notebooks, on October 15.

Sequent Computer Systems Inc will announce its new range of **Intel Corp** **Pentium**-based **Symmetry** multiprocessing systems this week.

Unix International claims we got the numbers wrong last week on what it's costing them to trim back operations and says we overstated the case but won't tell us what the real figures are.

X/Open Co's **Geoff Morris** and **Novell Inc's** **Ray Noorda** are supposed to shake hands on the agreement under which **Novell** will give up the **Unix** specification, trademark and branding to the standards group, in front of a satellite-linked audience.

Meanwhile, **SunSoft Inc** president **Ed Zander** was publicly keeping mum last week on whether he would try to throw a monkeywrench into the **Novell-X/Open** proceedings, or whether he would even show up. We suspect the thing is not going down well with him.

Early in the 21st century, after we get through **Intel Corp's** **P6** and **P7**, **AT&T Bell Labs** figures the CPU of a computer is going to be made of some kind of light energy and they're working on it.

Judith Estrin has taken over as president and chief executive of **Network Computing Devices Inc** from real-life hubby **Bill Carrico** who remains chairman, promising to still be active and interested in the firm's strategic directions and business opportunities.

DEC called in last week to complain about the undeserved slur it suffered recently when someone badmouthed it and alleged it would have to hang up **OSF/1** if it is going to get compatible with the **1170 API** (**UX No 453**). On September 1, **DEC** said, when the **1170 API** still actually consisted of only 968 APIs, it was 97.5% compliant. Now that there are more APIs it's not sure how compliant it is but reckons it couldn't be too far off the mark since all it is all the most-used stuff. It's willing to bet **Sun** is less compliant than it is because of things like **Motif** and **DCE**.

We didn't realise it at the time the deal blew-up, but **IBM Corp** made **Steve Jobs** pay back \$30m of the \$50m it gave him five years ago for rights to **NextStep**.

Networks Expo is set for Boston on February 15-17.

The alternative to **Win-tif**, according to **IXI Ltd** president **Ray Anderson**, was **Mo-dows**.

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AT LAST! - UNIX BECOMES A CONFORMANCE TRADEMARK

Three weeks behind schedule, Novell Inc and X/Open Co Ltd last week formally announced that the Unix operating system trademark will be transferred to X/Open. X/Open will make the trademark available to vendors immediately and, after signing a trademark agreement, they will be permitted to call their products Unix. The agreement stipulates that products must be compatible with XPG3 or XPG4 and SVID 2 or 3; be derived from Unix System Laboratories operating system technology; and comply with X/Open's Spec 1170 suite within 12 to 18 months of the application programming interface becoming available - this is slated for mid-1994 (UX No 451). Users of the trademark will pay licence fees to X/Open, based on the volume of Unix system products they ship. Novell retains ownership of the software, which it bought from AT&T Co when it acquired USL, and it will continue to collect licence and source code fees accordingly. In return for giving up the trademark, Novell gets a seat on the 15-strong X/Open board, paying no dues for the first three years, and also gets free use of the Unix trademark for three years too (X/Open has "a formula" worked out for use thereafter). Effectively, Unix changes from being a product name to a conformance trademark. Further details and a response from Bill Gates follow on page 5.

SUN'S TOP STAFFERS TAKE BIG CUTS IN PAY IN RETURN FOR DEMANDING STOCK OPTIONS

As it's much better to anticipate trouble than to have to react to it, Sun Microsystems Inc's chief executive, Scott McNealy as well as all the other top executives have taken pay cuts under a new salary plan - instituted at McNealy's request - that links their pay more closely to the company's performance. According to the *Wall Street Journal*, the Mountain View, California-based group's top staffers will now get more stock options and less cash salary. McNealy's wage for the fiscal year to June 30 was trimmed 27%, to \$400,000 from \$550,000 and his bonus was cut 43%, to \$251,304 from \$445,763. But he received 60,000 stock options, although they aren't worth anything yet - the exercise price is \$28.25 and Sun has been trading around the \$22 a share mark. Sun said McNealy recommended changing the salary scheme "because of a philosophy that executives should be paid based on the performance of the company. The best way to do that is with stock options. We think stockholders like that". Wall Street watchers remain worried about potential competitive threats and rampant price wars in Sun's core workstation business. Meanwhile, the group turned in its first quarter results last week. Net profits rose 243.7% to \$16.6m, while turnover increased 12.3% to \$960.5m. Net earnings per share were up 220% to \$0.16. Sun attributes its improvement in performance to cost-cutting and strong growth in the US and the rest of the world, with the exception of Europe. The first quarter is normally one of its better ones anyway, it says.

FAULT TOLERANT BLITZ FOR THE TELECOMS MARKET - MOTOROLA AND DEC READY MACHINES

Motorola Inc will launch its first Unix fault tolerant machines for the telecommunications market on November 11 in Europe, a week or so earlier in the US. The group says the boxes will complement its existing lines, claiming it is the only firm that can offer telco's binary-compatibility with commercial systems - all of its offerings run SVR4. The new machines will be used to run billing systems and intelligent network applications, but Motorola will also sell them internally - the group as a whole generates more than half its business in the telecommunications market. Meanwhile, Digital Equipment Corp will soon supplement its proprietary range of fault tolerant machines with Alpha AXP's running OSF/1. It has signed up Rome, Italy-based real-time and high-availability systems specialist, Alenia SpA, to manufacture and complete the design of the new Alphas, which are based on its VAXft fault tolerant architecture. Alenia will also manufacture DEC's VAXfts family of three, which comes in 11 configurations and runs OpenVMS. The newest member of this family is the VAXft 810, released last week at \$175,000. This comes in at the top-end, and performs at 90 tips compared with the previous highest performer at 60 tips. DEC says the new Alpha's can be used as general purpose machines, but are targeted primarily at the telecommunications market as most customers here want Unix. And because they run OSF/1 E type, which has a SVR4 personality, users can run both OSF/1 and SVR4 applications on them. The fault tolerant Alphas are rack-mountable and have 2 CPUs, each with mirrored memory ranging from 32Mb to 1Gb. They run at 125 Specmarks, and come with up to 75.6Gb of shadowed storage, 16 interface cards, including Ethernet, SCSI, and FDDI, a CD-ROM load-device and support for two extra tapes. No pricing or availability dates were given. DEC's client/server product blitz is detailed on page 7.

TOM MACE IS NEW CHIEF OF POWEROPEN - 88OPEN ON AUTOPILOT

Tom Mace, president of 88Open Inc, is now head of the PowerOpen Association, set up earlier this year by IBM Corp, Motorola Inc, Apple Computer Inc and their PowerPC mates. He took over last Wednesday from Dominic LaCava, an ex-DECie who resigned "for personal reasons", but is not saying what he intends to do next. There are no plans to merge the two organisations, but as no replacement for Mace has been named, the future of 88Open now looks even more bleak (UX No 454) - Mace says the organisation will run on auto-pilot for the time being. This move is quite a natural one for him and keeps him within the Motorola orbit. For starters, he is thinking about opening a PowerOpen arm on the West Coast. But, Mace will now pass control of the ApTest Applied Testing and Technology company he set up with Andy Silverman to the latter. ApTest was formed to sell 88Open's highly-regarded validation technology to other consortia backing architectures other than the 88000 RISC, but so far there seem to have been no takers.

ROSS TO OFFER SUN CUSTOMERS QUAD HYPERSPARC UPGRADE

Ross Technology Inc, now a Fujitsu Ltd subsidiary, will be hawking its HyperSparc chip - the one Sun Microsystems Inc hasn't picked up - directly to Sun customers as a quad upgrade for their Galaxies and SpareStation 10s. Ross will supply the chips as four CPUs on two modules, and claims that applications performance on a Galaxy triples. Ross attests to having 10 OEMs for the chips, which have been in volume production since May.

CRAY TO RELEASE SPARC SUPERSERVERS

As expected (UX No 450), supercomputer manufacturer, Cray Research Inc will introduce its first Sparc RISC-based superserver on October 25th. The system, developed by the firm's Oregon-based subsidiary Cray Research Superservers, will run the Solaris operating system and come in above Sun Microsystems Inc's 16 processor SpareCentre 2000. Cray has been working with Sun for the past year and a half to develop the hardware architecture, which, it is claimed, enables Cray applications to run seamlessly with Solaris.

INNOVATECH DEBUTS HARDWARE- INDEPENDENT DOCWORX IMAGING SOFTWARE

Innovatech Corp, a San Diego-based imaging start-up, is finally coming out of the woodwork after a year of quietly salting its system around at major customer sites. Major customers so far include Martin Marietta, McDonnell Douglas, Wells Fargo Bank, Pacific Gas and Electric, the US Air Force, the US Navy and Black & Decker where it has garnered perhaps a thousand seats. The cornerstone of its product strategy is DocWorx, described as distributed and scalable multiplatform imaging software that captures and inputs, stores and manages and retrieves and outputs images for individual, departmental and enterprise applications.

Trident

The technology from which DocWorx derives had its genesis years ago on a Trident submarine and was beta'd by the US Air Force. Unlike most imaging systems, it requires no proprietary hardware. Currently the system runs natively on Sun Microsystems Inc workstations, PCs and Apple Macs and on NFS and NetWare networks. TCP/IP, Ethernet, Banyan Vines and Token Ring are also supported. LAN Manager support plus the ability to run on AIX, HP/UX and Ultrix is in development. DocWorx, whose interface was created using Open Look, Motif, Windows and the Mac, brings the same look to all platforms. DocWorx uses SQL techniques to access RDBMs, which currently include Oracle, Gupta, Ingres and Paradox. Gateways to Sybase and Informix are in development. It can reportedly track information stored anywhere on the network no matter how large the network is and decompresses the file at the retrieval station for speed. DocWorx consists of five components: DocWorx Control, DocWorx Client, DocWorx Output, DocWorx Storage and DocWorx Input. It includes an advanced graphical query system to search for information by key word or phrases. The OCR/ICR technology embedded in DocWorx can convert scanned text pages to ASCII format and users can search for any word or number on any page in the database. The software is also capable of automatic indexing and full-text editing. Images and documents can reside on multiple servers or juke boxes, providing for simultaneous multi-access. The company says its code is easily maintained because it's small, only 150,000 lines and can be customised without a programmer. Workflow-oriented, it routes and delivers work and primary images to users based on pre-determined steps and will download computer optical disks of mainframe files. It also offers file conversion to Interleaf, Framemaker and Xerox ScanWorx. The company was founded by president Michael Bailey and includes vice president, sales and marketing Thomas Anthony, who was previously with Altos Computer Systems and coordinated its integration into Acer America. Anthony is a Unix pioneer, having been with Onyx Systems, the first company to try to commercialise Unix systems. Innovatech, which is using direct sales as well as OEM and VAR channels, is expecting to do between \$10m and \$15m next year and is already internally funded. It also expects to have 100 VARs signed at the end of next year. It has found the sales cycle is anywhere from three to eight months, relatively fast for a product that changes the way the customer works. Pricing runs from \$5,000 standalone to \$12,800 (1,600 per-user) for an eight-person workgroup to \$39,000 for a 20-user enterprise system. Strategic partners include Apple Computer, Fujitsu Computer Products, Fulcrum Technologies and Hewlett-Packard.

BRADLEY OFFERS GUI-BUILDER FOR FORTRAN

As expected (UX No 440), UK firm Bradley Associates Ltd, Crowthorne, Buckinghamshire, has released a toolkit which allows developers to build graphical user interface front-ends for Fortran applications. Ginomenu is similar, says Bradley, to those that XVT Inc and Zinc Inc offer for the C marketplace. Ginomenu is supplied with a variety of menus and widgets which are independent of any host windowing system such as Windows 3.1 or X Windows. Prices go from £200 on PCs to £400 on workstations. Bradley's existing Gino-F package handles device connection and control of the graphics environment - it is priced at from £825 on PCs. Gino-CL, a command language interface for non-programmers is expected before year-end. +44 344 779381.

CAMBRIDGE TECHNOLOGY PARTNERS BRINGS ITS BRAND OF SYSTEMS INTEGRATION TO THE UK

The success of its US operation, which has grown from zero to a near-\$40m run-rate in its three-year life, has persuaded Cambridge Technology Partners Inc (CTP) to bring its brand of systems integration to the UK, with the opening of an office in Richmond, Surrey. The move comes six months after the Cambridge, Massachusetts-based firm began its European venture by establishing an outlet for its services in Holland. To compete against traditional systems integration concerns over here like Hoskyns Plc and Andersen Consulting, chief executive officer James Sims - former Concurrent Computer Corp president - says CTP offers quicker and cheaper solutions. The company's chief thrust is interoperability, and it isn't aligned with any particular technology or system. Most of its 300-odd US customers are moving from outmoded minicomputer environments to mission-critical Unix-based systems. Because Europe never rode the minicomputer wave to quite the same degree the US, Sims argues that, on the whole, European firms haven't had to make that quantum shift quite so soon. However there are many, he believes, that are now ready to do so. CTP's strategy is to introduce a single Unix server at the centre of a customer's existing IT set-up and use it to develop an application such as project management or customer service, with graphical user interface clients; something not already up on the proprietary kit. Sims estimates such an initiative would cost anything between \$5m to \$20m and take up to two or three years on a proprietary system - he says CTP can typically do the job within six months for under \$1m. Subsequently, CTP would move more applications over to the Unix server and begin to do distributed computing. It will only then begin to assess the need for the rest of the proprietary kit and begin rightsizing the organisation, gradually eliminating proprietary boxes as their duties are replaced by Unix applications. Some proprietary systems are always likely to be retained for certain tasks, Sims says. CTP sells no products apart from its own services and doesn't offer traditional facilities management, or outsourcing. Buying hardware, Sims believes, is increasingly a commodity purchasing task, and users should soon, if they can't already, be able to upgrade systems with only minimal help their suppliers. CTP will develop and maintain software. CTP's Dutch unit has gathered some 20 customers in its short life - Sims claims at least four companies are already interested in what it can offer in the UK. The Richmond office, with three staff, will be up to 25 soon - 50 by next summer - with other European outlets on the cards. US +1 617 374 9800. Holland +31 20 6977771

OMINIPLEX OFFERS WINDOWS-TO-UNIX, UNIX-TO-WINDOWS INTEGRATION TOOL

It doesn't rain but it pours. Following IXI Ltd's Unix-under-Windows gambit (UX No 457 and see page 5), St Albans, Hertfordshire-based UK firm Omniplex Ltd has a new colour ANSI terminal emulator and integration tool that allows Microsoft Corp Windows users to set up Unix systems and applications as icons on their desktops. Omniplex says Planar Unicord allows Unix applications to be launched as normal Windows applications. Multiple Unix windows can be scaled and resized, and information can be cut and pasted between them. Unicord runs over RS-232 and supports various networks. It also allows MS-DOS and Windows processes to be started under Unix so that Windows tools and applications can be incorporated as utilities of Unix software packages. No prices given. +44 727 811 301.

HP OFFERS PEREGRINE NETWORK MANAGEMENT FOR OPENVIEW

Hewlett-Packard Co has licenced Dallas, Texas-based Peregrine Systems Inc's StationView and ServerView software for managing NetWare LANs under its OpenView systems management environment. ServerView also supports version 1.5 of Novell's Netware Management Agent. StationView and ServerView - which HP will offer as HP OpenView Node Manager for NetWareStation and NetWare Server - are priced at from \$6,750 and \$7,750 respectively plus \$350 to \$550 per agent. The workstation version is available from December, the server edition from next February.

IBM SCRUTINISES ALLIANCES TO CUT COSTS - TALIGENT FATE UNDECIDED

The Gannett News Service, news gathering arm for USA Today, reports that hundreds of business alliances between IBM Corp and other companies may be altered or scrapped as part of IBM's effort to slash operating costs. IBM was not commenting, but chairman Louis Gerstner and his top lieutenants are said to be busy picking winners and losers among IBM's 500-plus worldwide alliances, in which it has invested about \$5,000m; it is clearly hard work though - "So far, Gerstner's team has identified 12 winners and 12 losers," says the wire, citing as winners Prodigy, the on-line information-services joint venture between IBM and Sears Roebuck & Co. Winners can expect to receive continuing financial backing. As for the dozen losers, IBM is said to be moving to dissolve those relationships as quickly as possible. Eight of the 12 on the losers' list have been informed, including a banking software company - that would be Hogan Systems. The remaining 450-plus fall into what some at IBM are calling the grey area, meaning their long-term fate is uncertain, and they include Taligent Inc, the wire reports. It says some IBM watchers speculate that IBM might eventually squash the project, which is costing the firm about \$4m a month to sustain.

...DB2/6000 IS NOW AVAILABLE, DATAGUIDE SOFTWARE LAUNCHED

IBM Corp's Software Solution's division (nee Programming Systems) last week announced general availability of DB2/6000 for the RS/6000 for November 12, along with additions to the Information Warehouse database strategy. DataGuide is a new family of products designed to help non-technical users find information held in disparate databases. Once found, the stuff is retrieved using copy management products DataRefresher and DataPropagator, the latter coming in non-relational and relational versions - the relational version is version 2 of an existing product. Together they are designed to replicate data, regardless of its location and convert it into the user's favourite format. At the same time version 1.2 of DataHub/6000 is launched, promising improved database systems management on the RS/6000.

AVS TO INTEGRATE UNIRAS PRODUCTS INTO NEXT GENERATION OF SOFTWARE

Now that Advanced Visual Systems Inc has the Uniras A/S acquisition firmly under its belt (UX No 453), it will both start integrating elements of the latter's graphics visualisation software into its "next generation" of products, and begin focusing on new markets. In the past, the Waltham, Massachusetts-based firm has targeted its interactive three-dimensional graphics and visualisation packages at the end-user technical and scientific market. But it is now busy developing these products into a framework that developers can use to build applications for specific vertical markets. This means giving developers access to various interfaces, subroutines and drivers and providing them with ways of administering the software. Certain elements of Uniras's two-dimensional presentation graphics and visual data analysis kit will also be incorporated into the framework, including two-dimensional graphics and plotting capabilities - areas in which Advanced Visual has been traditionally weak. Uniras software should be completely integrated with Advanced Visual's own by 1995 or 1996. The new products should be available by early summer 1994, but the group says they will not be sold solely to applications developers - end-users will still be able to use them too. Nonetheless, it does expect to generate about half its revenues from developers and the run-time applications they produce within three years. Advanced Visual says it is also keen to move into more commercial markets, such as financial and statistical analysis. It already has one or two customers here, but intends to invest more in these areas over the next year or so - and it reckons its port to Microsoft Corp's Windows NT, planned for next year, will help it achieve this goal. Moreover, the group says, once it has "digested" the Uniras purchase - in about a year's time - it will be back on the acquisition trail as a way of growing its business still further - Advanced Visual says it intends to go public within two years.

OSF DEVELOPING C++ COMPILER FOR DCE

The Open Software Foundation is working on a compiler that will enable developers to write Distributed Computing Environment applications in C++ - one of the languages used for writing objects. DCE code and specifications are currently written in C. OSF said it is also adding three new capabilities to core DCE software. These comprise the ability to track changes made to a pre-defined set of object routines; to track and manage programming errors; and to add new commands to existing routines. But OSF denied it intended to rewrite DCE in C++, now or in the future. The object-oriented programming specifications should be delivered with DCE version 1.2 in spring or summer next year.

PLATFORM TURNS UNIX NETWORKS INTO "VIRTUAL SUPERCOMPUTERS"

Platform Computing Corp last week announced its LSF 1.1 Load Sharing Facility software, a transparent distributed system that it says turns a network of multiplatform Unix systems into a "virtual supercomputer." The Toronto company has strategic alliances with DEC and Convex Computer Corporation to bundle LSF with their cluster systems. It is also a partner in HP's Cluster Computing Program and IBM is distributing the software. It claims interactive response time of key application can be trimmed 30% to 40% and batch job throughput doubled. It runs on IRIX, Solaris, SunOS systems as well. The product stems from research done at the Computer Systems Research Institute at the University of Toronto.

WORDPERFECT LINES UP BEHIND APPWARE

Wordperfect Corp, Orem, Utah has moved its backing for Novell Inc's AppWare strategy on a little and now says that the AppWare Foundation a third-generation language programming tool that enables developers to write portable applications that are independent of the processor, operating system, graphical user interface or network is to be a standard development environment at WordPerfect's Core Technologies Development. The Core Technologies group at WordPerfect is using the AppWare Foundation to add portability, standard networking interfaces, graphical user interfaces, and interapplication functionality to the company's word processors, presentation graphics and workgroup applications; the Core Technologies group is responsible for the development of core code and functionality that is system-independent, for use in all the company's products.

ED LUCENTE'S DEC EMPIRE GROWS APACE

Digital Equipment Corp, Maynard, Massachusetts, has combined its five customer business units with its worldwide sales and marketing group, unifying management under vice-president Edward Lucente in a move that further strengthens the power of the former IBM Corp executive. The business units are Communication, Education and Media; Consumer, Process and Transportation; Discrete Manufacturing and Defense; Financial, Professional and Public Service; and Health Industries; their presidents had reported to chief executive Robert Palmer. The firm made no mention of any employee reductions that may result. Meanwhile, DEC says that standard Windows NT and Windows NT Advanced Server are now shipping in volume on Alpha AXP's.

MICROSOFT-INTEL SUCCESS "CAN'T LAST"

Advances in computer technology will prevent the likes of Microsoft Corp and Intel Corp from dominating their markets for very long, First Boston Corp vice-president Paul Johnson told a US House of Representatives Judiciary committee hearing: "Our research suggests that despite Microsoft's current dominant position in the market for desktop computers, the company is vulnerable to current industry shifts such as the emergence of enterprise-wide computer networks - keep in mind that IBM was a more dominant vendor within the mainframe computer market at the peak of that products life cycle;" he said the history of the computer industry shows that - no success will go unpunished, success is short-lived - and can be dramatic.

SYBASE, HEWLETT-PACKARD SHARE IN BIG PRUDENTIAL ASSURANCE INVESTMENT

Prudential Assurance Co Ltd has signed a major contract with Sybase UK Ltd to use its SQL Server at 180 UK branches. The system under development should revolutionise the way Prudential's Home Services Division supports its 9,000 sales people. The aim is to maximise use of existing information by matching products with current and potential customers to generate a sales campaign. Prudential reckons it needs to focus on its direct sales team and feels investment should be centred on managing customer relations. The firm spends more than £80m a year on information technology, but the stand-alone personal computer system it has had for the past 15 years is now inflexible and costly to maintain. The agreement comes after extensive benchmark tests both in the US and UK, in which Sybase surpassed other companies, including Oracle Corp, Ingres Corp and IBM Corp's DB2. Hewlett-Packard Co will provide the hardware - a local server and personal computers will eventually be installed in each branch. The Sybase database is currently under trial on HP 9000 series 827 at 11 branch offices. Full implementation is anticipated in 180 branches by early 1994. The deal with HP is worth £10m, the one with Sybase £2m, although the figure should rise to about £20m as the project nears completion. No rise in premiums is expected. Prudential has acquired all Sybase's application development life-cycle tools, including Release 5.0 of APT Workbench. In future, it plans to implement a more mobile office by providing the sales force with portable point-of sale machines.

SEQUENT LAUNCHES PENTIUM-BASED SYMMETRY RANGE

Sequent Computer Systems Inc has launched a new series of Intel Corp Pentium-based Unix symmetric multiprocessing servers, which it claims offer twice the performance of its previous 80486-based systems, while retaining backwards compatibility. The Symmetry 2000 range is aimed at large corporate accounts wanting to move from mainframes to client/server environments, and the Beaverton, Oregon-based firm reckons it can supply users with all the relevant third party tools, education, training and consultancy skills to do the job. The new family has four members, each running Sequent's Dynix/OS - a new version of the operating system, based on SVR4.2, is due out in the first quarter of 1994 - and these comprise: the Symmetry 2000/290 for branch office or workgroup computing, which supports several 100 users - this sports between two and six Pentiums, has up to 320Mb of system memory, 109Gb of mass storage, and starts at £60,000; the Symmetry 2000/490 for departmental computing, which also supports several hundred users - this incorporates from two to ten Pentiums, has up to 768Mb of system memory, up to 403Gb of mass storage, and starts at £100,000; the Symmetry 2000/790 for enterprise-wide computing, which supports more than 1,000 users - this includes between two and 30 Pentiums, has 1.5Gb of system memory, mass storage of up to 806Gb, and starts at £235,000; and finally, the Symmetry 2000/990. This is essentially a high-availability cluster of any two Symmetry 2000 systems, which share data stored on common disks or tape units. The cluster is said to provide mainframe-type performance to data centres and supports more than 10,000 users. Symmetry 2000/990 systems start at £180,000, and existing 2000/X50 customers can create their own clusters by simply buying a new machine and cluster upgrade kit, containing about £2,5000 worth of cabling, and the necessary software to link everything together. The new servers are available now and will replace the previous 486-based Symmetry 2000/X50 machines, although Sequent says it is already talking to Intel Corp, Compaq Computer Corp and AST Research Inc about its next generation of systems. Within the next six to nine months, it plans to merge its existing Symmetry and Win-Server lines - the latter runs Microsoft Corp's Windows NT. Sequent will offer both operating systems on one box by installing a hardware abstraction layer between the operating system and the CPU. Other operating systems will follow.

CONCURRENT DEBUTS NEW MULTIPROCESSOR SYSTEMS WITH NEW BUS ARCHITECTURE

As expected (UX No 449), Concurrent Computer Corp has launched a new family of real-time Unix multiprocessor systems based on Mips Technologies Inc's 150MHz R4400 RISC chip, which it claims incorporate a "revolutionary" new bus architecture. The Oceanport, New Jersey-based firm attests that its Maxion range provides six to eight times the performance of the existing Series 700 and Series 800 machines as a result of the new proprietary "crosspoint processor interconnect" architecture. Crosspoint essentially comprises an application specific integrated circuit (ASIC) chipset made up of 7 chips, which connects CPUs to each other, to each of the local memory chips and to input-output devices. Each CPU is linked to crosspoint and its own local memory chip of up to 128Mb via a CAMI - or CPU and memory interface - which is also an ASIC. The CPU, memory chip and CAMI all sit on one board, while crosspoint sits on another. In simple terms, crosspoint supports multiple simultaneous connections that won't interfere with each other as long as they don't need to share anything. This means microprocessors can work very quickly - at 90 Specint92 to be precise - because bottlenecks are eradicated - such bottlenecks occur when a CPU can't send data to a memory chip or input-output device as quickly as it can process it. Furthermore, Concurrent claims, when new processors are added, performance increases by 95% each time. The new Maxion family comprises the model 9100, which comes with between one and three CPUs, has 340Mb of 3.5" disk, 525Mb QIC tape and a 5-slot VME-6u chassis - this starts at £25,567 or \$39,000; the model 9200, which sports from one to four microprocessors, has 1,059Mb of 3.5" disk, 525Mb of QIC tape and an 11 slot VME-6u chassis - this starts at £45,411 or \$69,000; and the model 9502, which includes between two and four CPUs, each with 64Mb of ECC memory, has a dual VME bus, 2,900Mb of 5.25" disk, 2,100Mb of QIC tape and a 21 slot dual VME-6u chassis - this starts at £108,938 or \$165,000. The boxes are due to go into beta testing next month, and should be available by the first quarter of 1994. However, Concurrent says, if customer demand warrants it, it will also devise ways of interconnecting various crosspoints - and should be able to do so within a year.

SAP TURNS TO INTELICORP FOR AN OBJECT-ORIENTED INTERFACE TO R/3

SAP AG has turned to Intellicorp Inc, Mountain View, California, for an object-oriented interface for the Abab development environment, which comes with SAP's R/3 Unix accounting and financial applications suite, *Computerwoche* reports. The order is worth about \$1m, and tasks include developing a more intelligent editor for R/3. The interface for objects and events will be based on Intellicorp's Kappa development environment, which includes a programming language, a software engineering tool set, a graphical user interface builder and interfaces to relational and object-oriented databases.

DIVISION LANDS £500,000 ORDER FROM MATSUSHITA

Division Group Plc, Bristol, says it has shipped "the world's largest commercial virtual reality system" to Matsushita Electric Works Ltd in Japan. The \$500,000 machine consists of a Silicon Graphics Inc Onyx graphics supercomputer in dual-pipe Reality Engine configuration, with three Division ProVision virtual reality workstations and dVS software. The affiliate of Matsushita Electric Industrial Co - Division's distributor on the Japanese market, wants the system for simulating every aspect of the interior of a home, including heating, lighting and acoustics.

BILL GATES OUTLINES HIS VIEW OF THE X/OPEN-NOVELL GAMBIT

Bill Gates has responded to the recent X/Open and Unix reunification initiatives with the following message:

A company that creates an operating system has 2 choices in terms of how it does its licensing. One approach is to enforce a strict definition of the APIs of the operating system and not allow licensees to add or change APIs. Licensees can optimize around their hardware through unique implementations but all of the elements ISVs and end users depend on - user interface, standard utilities, shell, and APIs remain the same. Microsoft took this approach from the start of the PC industry because we felt that making the economics work for software developers we would get the most and the best applications. We felt applications determined the value of the operating system. By offering a consistent system we allow developers to not even think about the hundreds of manufacturers of DOS and Windows based machines. Likewise the customer of these machines can change hardware suppliers everyday without changing any of their software or without being denied the latest mainstream innovations. It is the power of this compatibility that has allowed PCs despite having much less power until recently to sell in volumes over 100x as large as the best selling workstations. Another approach is to allow licensees to make any change that they want. The benefit here is that companies who have lots of software engineers can challenge them to add state of the art unique features that will allow their platform to be unique and not allow applications of customers to easily migrate to other platforms.

Mix and match

Although the core of the operating system is standard the latest applications never stick to that core so the ability to get mix and match workstations of various types is as bad as mixing different types of minicomputers. An extreme example of the amount of modification comes if we look at Solaris versus Nexstep. Almost none of the code and APIs are the same. The user interface is completely different. If it was easy to take Solaris applications and run them on IBM, DEC or HP machines that would have meant that Sun's sales would drop dramatically when they started falling behind these other workstations on price performance. Customers didn't switch because they were locked in. Imagine a PC vendor like Compaq trying to hold onto customers for years when their price performance is not competitive. Compaq did try this and it almost put them out of business. The basic point is that IBM, HP, DEC are committed to having one of their operating system offerings being based on special work that their engineers do. As long as these engineers still have a job incompatibilities will proliferate around the most important new features of these systems. If IBM, HP and DEC decide not to have any of these engineers than Unix is no different for them than any other truly standardized operating system. The only reason these companies get involved with Unix in a direct way is because they have groups whose very strategy is to create incompatibilities with other versions of Unix. Over the years we have seen many attempts to "standardise" Unix. Groups like Unix International, OSF, X/Open, COSE and many others have come together to focus on this goal. However, the very structure of the Unix market has ensured that this is an endless process. If Novell tries to force this process then only Novell will have a particular interest in the resulting OS. It will start off with less applications and volume than Windows and therefore be of less interest to developers and customers. There is no way to have it both ways in the world of operating systems.

All in all, Novell's Great Unix "Give Away" scheme has proved to be a star-crossed affair. First there was the aborted Unix Expo announcement that did little to advance the Unix cause. Then, last week's press conference, an international satellite hook-up originating in New York, was beset by sound-problems, which made it difficult to follow. Luckily, this didn't matter. What was said - for all the executive talent assembled - was pretty much content-free - as is so fashionable in press conferences these days. However, last week's event may have set a new unbeatable record - even some of the assembled companies' public relations were dismissive. Meanwhile, the US trade press was, last week, voicing user scepticism over the project and Novell's grasp of Unix.

X/OPEN COSE SPEC UPDATE

X/Open's Spec 1170 review process was concluded last Friday (15th). Responses will now be reviewed and there may be a final round of "consensus building", before the specification goes before the X/Open membership. "No-one is digging great holes in it," says Mike Lambert. The final spec should be delivered by mid-1994.

Lambert said, although Novell XPS/IPX NetWare protocols are not currently included within the Spec 1170 document, there are moves for them to be included as an optional extension over the next few months. Indications are that they will not find their way into the "official" set of unified APIs.

Although X/Open will oversee the evolution of Spec 1170, development of the next-generation system software specifications to be passed on is a more closely guarded affair. Further "technology deals" were alluded to at last week's event. However, much is expected to rest on the outcome of talks to bring the Unix warhorses, Unix International and OSF together in some type of "NewOrg" (UX No 452). Unix International was conspicuous by its absence.

Asked if X/Open would make any money out of licensing the Unix trademark, given that IBM, Sun, HP et al seem intent on not using the word, Lambert assured us "that's the difficult part, but in one year's time, they will be." He declared that user procurement pressures will build up around the unified Unix specification and force vendors to make their conformance with Spec 1170 highly evident. Indeed, although IBM says it won't change the name of its AIX implementation to Unix and HP says it is "evaluating" the situation, what is most likely - and expected in SunSoft Inc's case (UX No 454) - is that vendors will use the trademark to advertise their respective product brands as "Unix" implementations.

MICROSOFT HURRIES OO CAIRO FORWARD AS NT FLOUNDERS, TALIGENT LOOMS

A trace of panic is beginning to surface in Redmond, Washington, US PC Week seems to detect. The twin worries are identified as what is now clearly a very slow take-up of Windows NT, and the looming threat from Taligent Inc, which is coming down to the wire with its first products. Microsoft's response appears to be to hasten the development of Cairo as an object-oriented follow-up to NT. In a recent round of presentations to customers and partners, Microsoft officials have revised development schedules for Cairo, which now follow closely on the heels of Chicago, the next major revision of Windows, which is due in mid- to late 1994. Cairo code is now "operational" in the company's labs, and beta testing is planned to begin in the first half of 1994, sources say. Microsoft would like to launch Cairo as early as the end of 1994, but sources said that the first quarter of 1995 is more realistic. Taligent is said to be planning to begin previewing its technology - including foundation class libraries, the user interface, and the operating system itself - at Comdex in November. Cairo will be offered in client and server versions, and is seen to be steadily subsuming technologies and products that were once planned to be offered on a stand-alone basis. The project to develop a groupware product, Delphi, has now been folded into the Cairo development group, and OLE 2.0 development, initially part of Microsoft's applications-development effort, was moved this month into the Cairo group, sources say - and many developers from the NT team have also been reassigned to the Cairo project. But critical issues are said to be still outstanding in Cairo, particularly with the underlying object model. It is based on a distributed version of the Component Object Model of OLE 2.0, but does not yet fully define class libraries, frameworks, and how objects are to be re-used. Chicago and Cairo will share a common visual interface, but Cairo will implement an object file system underlying the Windows user interface for the first time.

THE UNIX WORLD, AS SEEN BY RAY NOORDA

By Wendy Goldman Rohm

Ray Noorda says his company's combat with Microsoft Corp ranks with up there with his World War II memories. The following is snapshot of the chairman and chief executive of Novell Inc, and his thoughts about everything from Unix to Windows NT

Rohm: What really is the problem with the Unix consortium you've been trying to put together?

Noorda: The problem is that Unix has been around for more than 20 years or so, and it got started as a research function and AT&T let it be distributed a lot. It was a core business, and they didn't have, as far as I could tell, any protectorate over it, by any means - they just developed it. And let a lot of people get into it and do their own thing with it, as they should have. Because, you remember, that was the minicomputer phase, the business in the early 1970s. And there were a lot of start-up companies. Unix was available and [minicomputer developers] made it apply to their particular hardware and then modified it to their particular needs. So, over a 20-plus year period, it had become somewhat de-unified or de-Unixified, I should say. So, that's the issue. There are a whole lot of people trained in Unix, it's a pretty standard programming curriculum or part of a programming curriculum at most universities. The problem is that everybody has their own view of what Unix ought to be and the issue is how do we get them to unify so that they can all write application programming interfaces to the same platforms and have them work across all hardware platforms. Getting them to do that is hard, because they all have their own way of doing business and they are all stuck on their own hardware to a certain degree. What we are trying to do is get that unified and that's not easy, but we think it's very necessary if the industry is going to grow and have continued growth, based on the applications. You know these things aren't worth a hoot if they don't have applications written to them. We'd like to have as many people writing to this as possible. Now compare that with Microsoft's approach with NT. They recognised that unifying Unix was a very difficult task, so they just set off on a new approach. They said let's write a Unix-like product and control and run it. They'll do what they've done in the past. They can unify the whole world around a Unix-like environment, but it will be THEIR Unix-like environment. See, that's the difference between us and them.

Rohm: And so everyone's paranoid because they want their own technology to be at the core of Unix.

Noorda: Well, paranoid may be an overstatement, but, yeah. I went through a discussion with somebody yesterday about Sun. Sun is a marvellous company and they do great hardware and they have their own RISC chip that they're very proud of, justifiably, but it ain't Intel, you know. And the world uses Intel for the desktop. Those people in their particular niches like, IBM and DEC and Sun and HP, each of whom has their own RISC chips now, they want to sell [the hardware] they make, and they don't want to buy Intel stuff forever. So, they and the COSE group have worked very hard to sort of separate themselves as a group and keep themselves together, and share things. I haven't seen them share things a whole lot yet, but they will, perhaps, and try to build that particular Unix focus based on their sets. And that's understandable. So, they're trying to get all these folks to think about how they could probably sell all this hardware as well as grow the entire pull-through on their business through the end-user who wants a common set of applications to work on everybody's platform. The the big issue we have right now is getting those folks to be happy with what we're trying to do.

Rohm: Well, do you think its going to happen? It sounds like they don't want the Unixware specification to be part of it.

Noorda: Well, they don't like the name Unixware at all to apply to the desktop's broad scale. So we're gonna fix that. We're making that name available to all of them, soon. We haven't really gotten that wholly understood yet. But we will get to the point, I have lots of hope that we'll get to the point where it'll be a non-issue with them and they don't have to worry about Novell owning the name. We don't aspire to own it, you know, we really want to share it. We need to get people to get over the emotional content that they've got into this thing and get down to the reality which is basically that we want to give them Unix. I use that term somewhat loosely, but we want to let them share it and so they don't have to pay undue expenses, and so on.

Rohm: So everyone wants to use the name Unix, but they don't like the perception of it being Novell Unixware.

Noorda: They're really worried, justifiably, that we may be pulling some stuff on them that gets us into the same trap that they have with Microsoft. They're they're really concerned about that and I think that's really a justifiable concern.

Rohm: How would they like it to be set up?

Noorda: The way we're moving toward this is to have Unix owned.... Unix is the name which everyone worries about, so we're giving that to X/Open and they're going manage that. And Unixware, we'll let them have that name, too. So that they don't have to worry about the identity: that everything is Novell. They can share in the ownership of that. We also offered, and offered this a long time ago, to let them share in the ownership of Unix, so that they have a lot to say about development and several other things. And they're coming to the understanding that we're sincere about that. But they're very suspicious people, you know, they've got their whole lives and their businesses on the line here. They are justifiably worried about any little trickeries that they think that Noorda is so good at pulling off.

Rohm: How would that work, if they were all involved in development?

Noorda: Well, they will have some level of say over the basic spec and the basic development. The problem always is, you get a kind of a League of Nations thing, and you've heard me talk about that before, but it's always difficult to get people to agree, unless there's a really competitive environment that they have to agree to work against. That's why I always come back to the second World War [analogy]. It was so difficult to get everybody to finally agree that they had to work together to stop Mr Hitler. The most efficient government is the pure dictatorship. That's very efficient. It maybe wrong, but it's efficient. So, trying to get us pulled together I compare to the League of Nations, which went out of business four years after it was formed. And now you have the United Nations, so what we're trying to do is get this United Nations environment understanding that they're in a pickle. This is not unlike World War II. Microsoft is the most efficient company in the world right now, because it's a total dictatorship. And you can find the equivalent in Hitler and Goebbels and Goering. Anyhow, putting that aside, cause it's not important, what we're trying to do is to pull off this United Nations approach to getting Unix unified and everybody sharing in it's freedom. Oh, geez there I go again.

Rohm: What if GE's Jack Welch were the head of Novell?

Noorda: Oh, he'd sell us off. He'd say, "let's sell you off and get into another business." That's Jack's practice. His real strength is recognising that the bottom line is all that really counts and if we're not selling here, get cash out of it and do something else, that's his whole theory. I know him.

Rohm: What if Scott McNealy was the head of Novell, would this X/Open thing fly?

Noorda: Well, he would treat it differently and he would convert us into a hardware company and say, "Let's make a little money off of software, but the real money is in hardware." It wouldn't work, would it?

Rohm: Any exciting plans for Comdex?

Noorda: Our major focus right now is on AppWare, and that's a very important thing for the industry. Most of what we'll be talking there is AppWare and support and all the things that we've built into this networking support environment.

Rohm: Meanwhile, Microsoft is forging ahead.

Noorda: Forging ahead as you say. Or forgering ahead.

Wendy Goldman Rohm is writing a book on the US government probe of Microsoft to be published next year. She is also, as chance would have it, writing the authorised biography of Ray Noorda. She loves hearing from people on both subjects as well as others and can be reached at +1 708 869-3140 or MCI: wgrohm.

“NEW DEC” LAUNCHES RAFT OF CLIENT-SERVER SOFTWARE

Digital Equipment Corp delivered on its promise of 150 client-server hardware and software products last week, claiming the move to be a manifestation of “the new Digital,” *John Abbott* reports.

Robert Palmer has been installed as president and chief executive for one year now, and the roll-out of the company’s new generation Alpha products as successors to the VAX line is now well under way. But that roll-out, which leaves both DEC VAX and Ultrix/MIPS users faced with the prospect of migrating to a new architecture, has slowed the company down as its customers consider their options. Particularly on the Unix side, DEC has been overtaken by rivals such as Sun Microsystems Inc, IBM Corp and Hewlett-Packard Co. This leaves DEC UK Chairman Geoff Shingles’ assertion that DEC will be “the number one in client-server by 1995” in considerable doubt - although when Shingles is pressed he says that it is the “perception by the marketplace” of DEC as a market leader rather than a dominance in actual systems sold that he expects to see by then.

New Alphas, VAXes, VAXft

First, the hardware. DEC launched two new Alpha AXP workstations, three workgroup servers, two departmental servers and a high-end enterprise server. It also launched five new VAX systems and a new fault-tolerant VAX. The workstations are the Model 600 desktop system, using the 175MHz Alpha CPU, and the Model 800 desktide machine with a 200MHz Alpha. Rated at SPECint92 105 and SPECfp92 162, the 3000 Model 600 AXP is claimed to offer up to two times the performance of competitive machines from IBM, Hewlett, Sun and Silicon Graphics Inc. It costs from 17,000. The 3000 Model 800 AXP (SPECint92 120, SPECfp 184) is a tower-based system, 15% faster and 30% cheaper than DEC’s previous high-end system, the Model 500X. It starts at £34,000. Of the three workgroup servers, the 2000 Model 300 AXP is the lowest-priced Alpha server for desktop clients and application deployment: it uses standard personal computer memory and a six slot EISA bus. It will run OpenVMS, OSF/1 or Microsoft Corp’s NT. Prices (US only so far) begin at \$9,700. A personal computer local network configuration with Pathworks and OpenVMS costs \$7,000. The 3000 Model 600S, replaces the Model 400S and is 30% more powerful for the same (\$21,200) price. The 3000 Model 800S desk-side server with six 100M-bytes per second TurboChannel buses similarly replaces the Model 500S. It starts at \$34,100. There are two new DEC 4000 departmental servers: the 710 and 720, in both single and dual processor configurations, rated at between 183 and 300 transactions per second and priced from \$47,300. The DEC 7000 Model 600 AXP is 10% faster than previous models at a lower price. It offers six-way symmetric multiprocessing, support for 3.5Gb memory (14Gb soon) and beyond 10Tb storage. It has maximum input-output bandwidth of over 400M-bytes per second; prices from \$126,300. DEC also launched enhanced MicroVAX 3100s (Models 30, 40, 80 and 90) and VAX 4000s (100a, 500a, 600a and 700a), for those not impressed by the Alpha story (although these systems are billed as “Alpha ready”). And there is a new VAX-based fault-tolerant system, the VAXft Model 810. Meanwhile, DEC says it has an agreement with Italian industrial manufacturer Alenia SpA for the design and manufacture of future AXP fault-tolerant systems running DEC’s OSF/1. Alenia will also manufacture the VAXft Model 810.

LinkWorks is first DEC framework

Few details about DEC’s “Frameworks” strategy were given at the press announcement. Billed as a replacement to NAS, now seen as too ambitious and all-encompassing, software integra-

tion frameworks will include the architecture, methodologies, facilities and development tools for solving the basic problems of open client-server computing, said DEC. They will address customer needs for data integration, workgroup computing, enterprise messaging, production system computing, technical computing and system and network management. First out is LinkWorks, an object-oriented groupware product developed by Austrian software house FAB A GmbH. Aimed at departmental or line of business managers, LinkWorks enables managers to create a framework that integrates existing desktop and business applications for efficient work sharing. Any application or document incorporated within the framework can be manipulated as an active object via icons. Group sharing, routing, electronic signature approval, shared filing, administration and management, event tracking and notification and ad-hoc document management can be used in conjunction with existing applications. It works with Macintosh, Windows or Motif clients, Santa Cruz Unix, DEC OSF/1 or Ultrix servers, with NT and OpenVMS versions planned. Shipments start December; no prices were given. DEC also has new PathWorks networking software releases, and is offering new multi-vendor services, consultancy and support programmes.

New OSF/1 Unix release, 1,500 applications, Rdb for Unix

Following the “Spec 1170” merging of the Unix specification last month, DEC claims its “Unified Unix” already delivers 97% of that set of APIs - twice as many as its nearest competitor. That’s because DEC has already put in place thin layers of API interfaces to shield its users from the OSF/1 core. Ing C Olivetti & Co SpA, for instance, uses DEC’s E-Type Unix personality to offer System V.4-conformant Alpha systems. This week DEC announced version 2.0 of the OSF/1 AXP operating system, with C2 security, XPG/4 branding and Motif V1.2. There are now 1,500 OSF/1 on Alpha applications out, it claims. It is now shipping prototype symmetric multiprocessing kits to major developers with general availability set for second quarter 1994. Other DEC additions include PolyCenter advanced file system, DECsafe Available Server Environment for automatic and transparent fallover and recovery, and part of its Workstation Farms Unix clustering software product set. Farms enables large numbers of systems to act a single computer, with load balancing and resource allocation. A high-end Fortran compiler adapted to single system, multiprocessing and multi-system computing paradigms, will arrive in first half 1994. On the networking side, Alpha systems can now interoperate with IBM mainframe and mid-range systems through DEC’s SNA Peer Service software, and DEC plans to put its Rdb database up under OSF/1, and will also offer a version of its proprietary ACMSxp transaction processing monitor to OSF/1 users, alongside Tuxedo or VIS/TP from VI Systems for CICS applications. DEC has counted 1,500 OpenVMS applications now shipping. OpenVMS supports X/Open’s XPG3 branding, Posix, Motif, TCP/IP, SNA and FIP 151-2 standards says DEC, and there is a commitment to reach XPG4. DEC says this rate of applications deployment “is on a par with Unix and far ahead of IBM’s ES/9000 and AS/400 systems.” Pricing of OpenVMS servers and software now matches open systems prices, said DEC. Within 18 months, OpenVMS will support 64-bit files and databases, and include a new file system that can store 10Tb of data on-line, update 10Gb per day and recover 1Tb in eight hours. Up to 70 new or enhanced OpenVMS products were added; further new generations of VAXes are in the plan.

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The Object Database Management Group published the first specification for its Object Query Language at the end of last month, and members have committed to release compliant products within the next 18 months. But, as ODMG is about to be incorporated into the **Object Management Group**, it will be OMG that promulgates the standard. Legal details are being finalised about this as we speak.

IBM Microelectronics has come out with an 80MHz version of the PowerPC 601 for those irked at the level of performance they get from the present 66MHz and 50MHz versions. Samples are out now, with volume in January; it costs \$490 for 25,000-up.

Siemens-Nixdorf Informationssysteme AG will release 18 new servers based on the Mips Technologies Inc's MIPS R4400 chip on October 18. The machines will have a "beefed-up architecture" and span the low to the high-end, but will broaden out the range at the top. The group also plans to develop multiprocessor versions of its Intel Corp iAXP-86-based personal computers.

Grapoint Inc is to resell Xalt Software Corp's five-module Xalt Office worldwide. The San Jose, California-based firm also has future technology rights and will integrate its own technology into the software, which means customers will be able to access it via networked personal computers under Microsoft Corp's Windows. Xalt runs under X Windows on Sparcs, HP 9000s, Aviiions and RS/6000s. It will start at \$150 per user in small volumes and under \$50 per user in large corporations using significant volumes.

Stratus Computer Inc has agreed to buy almost all the assets of **BellSouth Systems Integration Inc**, an Atlanta-based subsidiary of BellSouth Business Systems Inc, for roughly \$15m cash - in an attempt to broaden its scope. The unit sells data communications middleware and professional services and will be run as a wholly-owned Stratus subsidiary. Its flagship product Network Express enables users to integrate information flow between dissimilar or incompatible systems, networks, databases and applications into a seamless on-line transaction processing environment.

IXI Ltd's Win-tif system for adding "Windows Friendly" front-ends to Unix applications up under its Desktop (formerly X.desktop) and Motif environments, doesn't, in its present form, require extensions to X Windows servers (UX No 457). However, IXI is working with VisionWare and AGE Logic on optimising X server products for Win-tif and will make any extensions freely available, it says.

IXI Ltd is also looking at extending its relationship with IBM, which of course has a whole OS/2 Presentation Manager user community that might be interested in a Windows Friendly front-end via Win-tif if they were able to access Motif-based applications from their systems.

Motorola Inc's advanced microcontroller division has formed a committee to define an application binary interface standard for developers writing software for embedded PowerPC systems. Also on the committee are Ford Motor Co, A.T. Barrett & Associates, Green Hills, Diab Data, Applied Microsystems, Embedded Performance, Microtec Research, Absoft and Ready Systems. +1 512 891 3260

OSF/1 1.3 (UX No 457) will have a few "bells and whistles" such as added security and multi-processing capabilities, added to it before turning into a product - a product known as OSF/2. This explains the tenacity with which sole adherent, Digital Equipment Corp, is clinging to OSF/1 - it is waiting for the new version to arrive.

The Object Management Group has issued two requests for proposal for the second version of its Common Object Request Broker Architecture (UX No 450). The first request covers interoperability and initialisation - communications between a client object, the ORB and whatever other services and objects are necessary to begin a session with the ORB. The second deals with the interface repository, which determines what objects are available on the system.

We wrote last week (UX No 457) that the Object Management Group had already chosen a suitable object broker for CORBA2. What we meant to say was OMG has selected suitable Object Services technology, which covers such issues as lifecycle, events and naming - and this is now under legal review. Sorry Chris - as you rightly say, you're not quite a deity yet!!!

Concurrent Computer Systems Inc is so enamoured with its new crosspoint technology (see page 4) that for the first time it has set up an OEM sales and business team to sell components - rather than entire systems - to other computer vendors - and says it is already discussing boards with Unisys Corp. The new division comprises director of open systems, Bill Saulnier, senior design engineer, Aaron Boxer, and an as yet unnamed vice president of sales.

AnaData Ltd has ported its direct marketing software to IBM Corp's RS/6000. +44 203 553 911.

Data General Corp has hired Donald Zereski as vice-president of its Systems Integration Business unit, a newly-created post: Zereski worked at Digital Equipment Corp for 30 years until December 1992 and formed a consulting company after he left DEC, Data General noted.

Sun Microsystems Inc's Sparc Technology Business unit will be referring customers requiring custom-designed Sparc platforms to **Opus Systems**.

Ing C Olivetti & Co SpA chief Carlo de Benedetti is under another cloud, Reuter reports from Milan. He is one of 64 people under investigation by magistrates probing corruption in Rome's underground railway. De Benedetti is suspected of corruption and illegal financing of political parties, but no official confirmation was available.

Software development tools supplier **Unipress Software Inc's** new release of Source Code Manager supports X Windows and incorporates a Modification Request system, which enables programmers to customise the flow and path of modification requests, prioritise requests, modify request status reporting, and decide whether source code changes should be tied to the request system. Source Code Manager for X costs \$800 for one user, \$3,300 for five, and \$6,000 for ten.

SunSelect, the personal computer-to-host integration business of **Sun Microsystems Inc**, has signed agreements with four major distributors in Australia and the Asia-Pacific region to address a growing demand for its products and expand global presence: the distributors comprise Mercuries Data Systems Ltd, based in Taipei, Taiwan, Automated Systems Ltd of Singapore, Automated Systems Ltd of Hong Kong and Mitsui Computer Ltd of Sydney, Australia.

Breakaway Software in San Francisco has ported its layered systems admin tool, Picus, to Motif. Picus enables disks, users, group, printers and TTY ports to be managed, maintained and monitored and costs \$1,995 standalone or \$3,995 networked.

Sun Microsystems Inc is pursuing the buyout option for Motif, under which it will pay a pre-determined sum to OSF and can ship as many Motif licenses as it wishes.

Bill Clinton was the first US president to video broadcast a speech worldwide over the Internet last week, when he marked the bicentennial anniversary of the University of North Carolina at Chapel Hill, the country's oldest public university. Chapel Hill makes White House documents available to the Internet through SunSite, a donated **Sun Microsystems Inc** workstation. Ironically, Sun chief Scott McNealy was a Ross Perot adviser.

Distributor **Access Graphics** has opened a new Integration Center in Menlo Park, California, to supply value-added resellers with fully loaded systems and reduce delivery time by two to five days. Customers will not be invoiced until integration is complete.

Lotus Development Corp has reported third quarter net profits down 39.2% at \$18.3m, against a period that included a \$34.6m pre-tax gain on sale of its stake in Sybase Inc, while turnover rose 16.1% at \$240.1m. Net profit for the nine months fell 60.6% to \$25.9m, after a net charge of \$19.9m for purchased research and development, on turnover up 7.4% at \$702.9m. Net per share fell 43% to \$0.41 in the quarter, 61% to \$0.59 in the nine months.

Wonderware Corp will release a suite of development kits this month, which enable customers to add Dynamic Data Exchange and NetDDE capabilities to applications running under AIX, SunOS, HP-UX - \$5,000 each - and Santa Cruz Operation Inc's version of Unix - \$2,500. The development kits will also incorporate the fastDDE protocol, which is claimed to provide 100 times the performance of DDE.

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UNIX INTERNATIONAL-OPEN SOFTWARE FOUNDATION SUCCESSOR SHAPING-UP

NewOrg - an ugly disingenuous name for the still-secret consortium-in-information that the COSEies have started pulling together over the last few months (UX Nos 456, 452) as a place to house their aspirations - is reportedly beginning to shape up. Rumours say perhaps a dozen companies have pledged to join, while a bunch are still banging on the door. As well as SunSoft Inc, Hewlett-Packard Co and IBM Corp, NewOrg's reputed fathers, other names being bandied about include NCR Corp, Unisys Corp, Novell Inc, Fujitsu Ltd, Hitachi Ltd, Santa Cruz Operation Inc and ICL Plc. DEC is also in the line up. But DEC - understandably because of its unflagging commitment to OSF/ - reportedly wants the assets of the Open Software Foundation brought into the new development organisation. How this can be done without NewOrg also inheriting such OSF liabilities as the lingering multimillion anti-trust suit lodged against it by Addamax Corp back in April 1991, remains to be seen. OSF's other key founders, HP and IBM, are believed to want those assets rolled into NewOrg as well. If it can be done, OSF and its one-time rival Unix International, might be gently euthanised or rather integrated into the new consortium and their chiefs, Dave Tory and Peter Cunningham, dispatched to greener pastures. Observers reason that an answer might lie with the quasi-independent OSF Research Institute, but it is not clear if the services of its chief, Ira Goldstein, will be needed any longer either.

SIEMENS NIXDORF SHIFTS OEM RELATIONSHIP WITH PYRAMID

Siemens Nixdorf Informationssysteme AG, one of Pyramid Technology Corp's two major European OEMs, last week launched a new range of own-designed Unix servers, and laid out plans for a 24 processor symmetrical multi-processing system directly competing with Pyramid's Nile range. "We now have a full product range of our own and we will offer it", said SNI vice president Dr. Horst Nasko, speaking in Munich last week. But SNI still takes its Sinix operating system technology from Pyramid's DC/OSX for use across its RM400 and RM600 ranges, in a deal that Pyramid UK's Mark Hughes claims is more valuable than the original hardware deal. Additionally, Hughes said that Pyramid would be taking SNI RM400 systems to fill out the gap in its own product line at the low-end. And SNI claimed that it was working jointly with Pyramid on the development of Pyramid's planned range of binary-compatible massively scalable architecture systems, involving tightly-coupled clustering technology to form a very large single system (UX No 446). Pyramid would only say that "many potential OEMs" were interested in that development, due to hit the market in the 1995-1996 timeframe. Siemens Nixdorf accounted for around 8% of Pyramid's OEM hardware sales last year, with Olivetti SpA accounting for the majority of the rest. Pyramid claims to sell between 55% and 65% of all systems direct now, and says that number will increase. It spends up to 65% of its development budget on systems software, said Hughes. Details on page 2.

DATA GENERAL'S SECOND WAVE - 88110s AViiONS AT LOW-END

This week Data General Corp, which market researcher IDC currently - albeit surprisingly - places as the market leader in high-end Unix commercial servers, will replace the low-end of its line, the one- and two-way 88100-based 4600 boxes, with the new 88110-based AV5500 running DG/UX 5.4.3. It is the second wave of its Open Enterprise scheme, which it started rolling out at the end of June, when it debuted the two- and four-way 9500s - it says these are now shipping in six- and eight-way configurations (UX No 441). The firm expects 12 to 16 CPU versions to follow next March or April when it will begin to roll out new clustering solutions. The new boxes are priced at \$14,600 for a uniprocessor with 32Mb RAM, 520Mb hard drive and a CD-ROM. It will cost another \$8,500 for the second processor, making a total of \$23,000. Target applications for the high-performance, scalable symmetric multiprocessing machines include database servers, Oracle Parallel servers and vertical VAR applications. Data General says it is shipping beta versions of Computer Associates Inc's CA-Unicenter for its machines two months ahead of schedule. Data General figures it can get one more generation out of the Motorola Inc chips that form the basis of its architecture and will boost the clock, expand cache and soup-up symmetric multiprocessing to perhaps 32 or more processors. However, it also knows that it must eventually move to another chip and has started the evaluation process. The most important condition is that it be a commodity piece, and vice president corporate marketing, Steve Gardner, says it's possible DG could wind up with two processors - Intel and the PowerPC that current supplier Motorola will produce.

ICL'S GOLDRUSH MEGASERVER IS NEW CLASS OF DATABASE BOX

ICL Plc officially launched its new massively parallel database server last week under the name Goldrush MegaServer. The distributed memory system can be configured with up to 127 HyperSparc RISC chips for a performance of 16,000 Unix MIPS and 6,000 transactions per second, supporting up to 1,200Gb of storage. Goldrush comes out of research developed collaboratively by ICL, Bull and Siemens Nixdorf as part of the five-year Esprit European Declarative System project to design and build scalable parallel processing systems capable of running relational databases. At the heart of the system is the DeltaNet 1.2Gbps bus connection developed by Siemens Nixdorf, which provides multiple simultaneous connections between the processors. Dual-chip Processing Elements, each with their own associated memory, are plugged directly into DeltaNet - each processing element is rated at 266 MIPS. There are also dual processor Communications Elements with dual FDDI links and an SCSI controller, and a Management Element to provide a unified view of the system. The Management Element runs Unix SVR4.2, and each Processing Element has a Unix operating system based on the Chorus/Mix microkernel from Chorus Systemes. Goldrush supports Oracle 7.1, Ingres 6.5 and Software AG's Adabas version V - Informix also says it will support it. Between 100 and 1,000 times performance increases are expected using the distributed lock management and distributed query capabilities provided between ICL and the database vendors. No modifications to applications are necessary, and only one line of SQL needs to be re-written to specify the number of processors, claims ICL. Any client system supporting SQL over TCP/IP or Open Systems Interconnection can be supported, including Windows personal computers, Unix systems (ICL, IBM, HP, Pyramid, Sequent and Sun have been verified so far), and ICL Series 39. Other manufacturers' mainframes will be supported in the future. There are no directly competing boxes, ICL says, dismissing massively parallel systems from the likes of Meiko Scientific Ltd and NCube Inc as "research engines" and specialist database systems from NCR's Teradata as "search engines" rather than databases servers. IBM's as yet unannounced parallel 370 RISC system might come nearer the mark. Systems are up and running at Oracle's Dublin facility and at ICL in Manchester. The UK's Department of Social Security is the first customer. General availability is March next year. ICL hopes to interest other manufacturers in OEM deals, especially in Japan and the US. Prices range from £750,000 to £10m - tens rather than hundreds are expected to be sold in the first year, with ICL hoping to recoup its £42m investment within two years.

OBJECTS ROUND UP

XVT DEBUTS GUI BUILDERS FOR C AND C++ DEVELOPERS

XVT Software Inc has announced XVT Development Solution for C (XVT-DS) and XVT Development Solution for C++ (XVT-DS++) for developers that want to build portable graphical user interfaces (GUIs) with a native look-and-feel to their target environments. XVT-DS is essentially a repackaged version of the Boulder, Colorado-based firm's existing software. But customers can now visually lay out and prototype portable custom controls and GUIs, which XVT claims, facilitates the development of cross-platform applications in C. The product also supports the new release of the XVT Portability Toolkit - 4.0. XVT-DS will be rolled out in phases. The first release will include Portable Bitmaps, Portable Help and Text Formatting Enhancement. It ships on December 31, but other releases will follow during the first and second quarter of 1994. These will incorporate an Object Palette, Layout Toolbar, Bitmap Editor, Object Browser, Geometry Management, Internationalisation and Custom Control Enhancements. XVT-DS++, conversely, combines XVT's Portability Toolkit 4.0 and a new product, XVT-Power++. It is aimed at users developing portable applications in C++. XVT-Power++ was formerly known as the Portable Class Library. It enables C++ application programmers to develop distributed applications for multiple GUI clients with relatively few lines of code, has a hierarchical application framework, and includes such functions as Nested views; Runtime Type Identification; and Object Delegation. XVT-DS++ will be available in the fourth quarter of 1993. Further releases in the first half of 1994 will incorporate the full visual layout capabilities of XVT-DS. All XVT customers with XVT-Design++, the previous XVT C++ offering, will receive free upgrades to XVT-Power++, but everyone else pays \$500 for 486-based systems and \$1,800 for workstations. XVT-DS and XVT-DS++ cost \$1,950 for personal computers and the Macintosh, \$6,300 for Unix workstations.

HITACHI LAUNCHES OBJECT REUSE LIBRARY

Hitachi Europe Ltd has introduced two new object-oriented development tools to its ObjectIQ product line, Distributed ObjectIQ and the Object Reuse Library. Distributed ObjectIQ is an enhanced version of its existing application development environment, ObjectIQ. According to Hitachi, it enables applications processing - rather than just data processing to be distributed across different machines. This means that processing at the client and server level and at the local and enterprise-wide level is quicker and simpler than before, the firm claims. Distributed ObjectIQ essentially automates the interprocess communication, or remote procedure call parts, of an application. So, if an amendment is made to an application at either the client or server level, the tool will automatically recompile the program. Distributed ObjectIQ goes into beta in the first quarter of 1994 and is scheduled to ship in the third quarter. The Object Reuse Library (ORL), meanwhile, is the company's first product designed to exploit libraries of reusable software components. It operates on networks of Unix workstations and provides a central data repository that coordinates reuse of code between more than one development team. In its simplest form, the ORL server maintains a database of software objects that can be written in C++ or ObjectIQ code, so users can browse the various libraries for documentation, advice, examples diagrams, and reusable code. ORL will go in to beta by the end of the year and version 1.0 will ship in the first quarter of 1994.

BUSINESS OBJECTS HAS MOTIF AND CHARACTER ANALYSIS TOOLS

Business Objects Inc has released Motif and Character versions of its BusinessObjects information access, analysis, and reporting software. Both are compatible with the Cupertino, California-based firm's Windows and Macintosh versions, and will be available on Sun Microsystems Inc's SunOS 4.1 by the end of October, and on Sun's Solaris 2.1, Hewlett-Packard Co's HP-UX, NCR Corp's Unix 5.4, and Sequent Computer Systems Inc's Dynix/ptx by the end of the year. Support for Oracle Corp and Sybase Inc databases is planned first, followed by Informix Corp, Ask Group Inc's Ingres, Digital Equipment Corp's Rdb and IBM Corp's DB2 planned for early 1994. End-user versions cost \$600, database administrator versions, \$3,500.

OBJECTIVITY/DB UP ON DEC ALPHA

Objectivity Inc has ported its Objectivity/DB object database to Digital Equipment Corp's Alpha AXP workstations running OSF/1, but also plans to release a Microsoft Corp Windows NT version for the Alpha in early 1994. The Menlo Park, California-based firm not only attests it is the first vendor to make an object database available on a 64 bit hardware architecture, it also reckons it is the only one to offer an object database architecture built around a 64 bit address space. And, it claims, Objectivity/DB runs twice as fast on the Alpha as it does on a Sun Microsystems Inc SparcStation. The product costs \$15,000 for a single developers licence and \$2,000 per end-user licence for a single application. The firm also says it is now marketing - and jointly developed - Persistent Storage Inc Persistence software bridge (UX No 444) - this sits between object-oriented and relational databases and enables customers to use relational tables with object-based C++ applications. It also expects to see the first fruits of its alliance with Dharma Systems Inc by the end of the year (UX No 451) - Objectivity/DB will both incorporate Dharma's SQL engine and support Microsoft's ODBC standard, which means relational database users will be able to access it. And, Objectivity says, it is also developing - marketing and selling - Micram Microelectronics GmbH's Classify/DB graphical user interface builder for Objectivity/DB (UX No 448). The group claims Classify/DB is the first Object Query Language (OQL) compiler, but it now wants to broaden out the product's conversion mechanism - Micram was given an early draft of the OMG's specification for OQL. Finally, Objectivity plans to set up an operation in Europe within the next twelve months - it now generates between 15% and 20% of its revenues in the region, but wants to increase this to a third by next year.

PARCPLACE HAS NEW VERSION OF OBJECTBUILDER

ParcPlace Systems Inc has introduced a new version - version 2 - of ObjectBuilder, its object-oriented graphical user interface builder for enhancing existing C++-based applications and opened a new UK office in Winchester, Hampshire, from where it will support and distribute its products in Northern Europe. The firm claims that ObjectBuilder 2.0 provides a flexible framework to enable developers to customise existing objects and interfaces within applications. New features include: attribute editors, which provide developers with colour, font, and object symbols control; custom objects that enable users to reuse or subclass new objects from existing ones; and support for Motif via ParcPlace's Object Interface mechanism. ObjectBuilder 2.0 is available now for Sun Microsystems Inc Sparcstations, IBM Corp RS/6000s and Silicon Graphics Inc workstations. Meanwhile, ParcPlace will introduce an enhanced version of VisualWorks, its object-oriented application development and deployment environment for Unix and Microsoft Corp Windows NT next year. It says the new edition will enable developers to generate "simple" types of application for querying databases without having to know SmallTalk. It will also include optimised query capabilities and the ability to create default forms.

ODMG HAS SPECS, FORMS COMPANY

The Object Database Management Group, which is about to become an incorporated non-profit making company, has published its first common database interface standard for object-oriented databases (UX No 458) The ODMG-93 specification will provide a common language for object databases, just as SQL has for relational database management vendors, and will enable applications to run across any object database and hardware platform without modification. According to ODMG member Object Design Inc, the standard defines an object query language (OQL), or object definition language based on the OMG's Interface Definition Language. It also includes seamless bindings to C++ and SmallTalk - the two main object programming languages. All the top object database vendors, including Object Design, Objectivity Inc, Ontos Inc and Versant Technology Inc, have committed to incorporate the specification in their respective products by the end of 1994. The ODMG-93 definition is currently being ratified by the Object Management Group and will be used as a component in CORBA 2.0 definitions, ODMG says. The specification is available now for £33.

APPLE TO RELEASE POWERPC-BASED SERVERS WITH PCs IN MARCH

Apple Computer Inc says it will not only introduce PowerPC-based personal computers, but also PowerPC-based servers in March next year. At the same time, it also plans to offer users of its existing Apple Workgroup server line an upgrade path to the PowerPC chip. The model 60 and 80 Workgroup server currently run System 7, while the model 95 runs A/UX, but all will use an enhanced version of the PowerOpen operating system when this becomes available. US reports say, however, that Apple Services won't be available on other Unix systems until the first quarter of 1994, although they were originally scheduled for the end of this year.

SCULLEY LEAVES APPLE FOR SPECTRUM

It had to come sooner or later - Apple Computer Inc has announced that John Sculley has resigned as chairman. He will be succeeded by the least-known of the company's co-founders, Mike Markkula, who held the post from 1977 to 1981 and has been vice-chairman since 1981. Apple's US president Robert Puette has also resigned and been replaced by Ian Diery. Sculley, however, will now assume the post of chairman and chief executive at tiny Manhasset, New York-based Spectrum Information Technologies Inc. Although he told the *Financial Times*, he had already met the company - rather reluctantly - before leaving Apple, it was only after he resigned that negotiations actually began. By last Sunday, he had sussed Spectrum out, getting engineers to check out its technology and lawyers its patent claims for transmitting data over cellular systems to AT&T Co - which agreed to invest up to \$10m in the firm. He then negotiated an employment contract and was ready to go. Sculley said he was tempted by the promise of mobile communications and declares he wants to build Spectrum into another Intel Corp or Microsoft Corp. He also likes the fact it has \$20m in the bank for acquisitions, alliances and relationships. But, there is also talk that he will start another company, perhaps with Kodak.

OPUS INCOGNITO RUNS SUN APPLICATIONS UNDER MS-DOS, WINDOWS, OS/2

Opus Systems Inc, the erstwhile Sparc cloner, last week joined the ranks of vendors, such as SunSelect with Wabi and Insignia Systems Ltd with SoftWindows, offering to transmogrify customers machines. The Fremont, California-based firm claims it has a product that will enable machines running Microsoft Corp's MS-DOS and Windows and IBM Corp's OS/2 to use Sun Microsystems Inc Sparcstation applications - with no performance penalty. It describes Incognito as a Unix application engine that is neither an emulator nor a translator. It is rather a combination of personal computer middleware and the company's new MicroSparc-based InBoardEngine/MS1 hardware, which runs the Solaris operating system. As a result, personal computer applications run on native personal computer hardware and Unix applications run on native Sparc hardware. Users simply click on a Windows icon to start their Unix application, print from the Unix application to a local personal computer printer, and can cut-and-paste from a Unix application into a personal computer application or vice versa, the company says. In addition, by using Windows File Manager to drag-and-drop Unix files, customers can organise them in the same way as they organise personal computer files. The product also incorporates Incognito/Share; Incognito/FS personal computer file sharing software, which integrates personal computer and Unix files as well as peripherals; Incognito/Launch, a Windows-based utility that enables Windows and OS/2 to access Unix applications by clicking on an icon; and Incognito/QuickStart, a simple Solaris install. The hardware, built on a PC/AT form factor, is said to include all the standard Unix workstation interfaces, such as Ethernet, SCSI, serial, audio and parallel ports and Sbus expansion slots. It currently runs Solaris 1.1, with Solaris 2.3 support due in the first quarter. Incognito also uses a 59.1-MIPS 50MHz MicroSparc I, but support for the MicroSparc II will follow in early 1994. Opus plans to charge \$1,000 for OEM quantities of the hardware, Incognito/QuickStart and Incognito/Share. It says Incognito/FS, Incognito/Launch and the Solaris operating system plus hard drives and memory will be sold separately, and are due in 30 days. The product will be sold via OEMs and come bundled with certain software products such as the Varimetrix computer-aided design and computer-aided manufacturing package.

14 NEW MIPS SERVERS FROM SIEMENS-NIXDORF - RISC ONLY SERVER STRATEGY

Siemens Nixdorf Informationssysteme AG (SNI) chose Systems '93 in Munich last week to launch 14 new Unix servers in its RM range - including a top-end 24 processor RM600 system of its own design that effectively marks the end of its OEM agreement with Pyramid Technology Corp (see front page). The new RM400 systems include the RM400 models 120 and 220 minitowers, 330 and 430 four EISA slot towers, and the four EISA slot models 340, 440 and 540. Low-end models use the 50MHz external/100MHz internal Mips Technologies Inc RM4400 RISC chip, the 430, 440 and 540 use the 75/150MHz chip. Entry-level prices range from \$32,000 to \$243,000. Additions to the RM600 range include the 50/150MHz models 120, 130 and 140, and the 75/150MHz 220, 230 and 240, with from one to eight processors, 4Mb second level cache per processor and up to 27 Multibus II slots. Entry-level prices range from \$161,000 to \$350,000. Performance levels of up to 800 transactions per second were claimed. Pilot systems are out now, and the RM600s will be generally available by the end of the year, with the RM400s out in February. The as yet unnamed high-end RM600 will come with up to 24 75/150MHz RM4400 chips, dual CPU boards with 4Mb second level cache per processor, up to 4Gb main memory and 1,000Gb storage. It's due out in the second quarter of next year. All the new machines have been designed internally by Siemens-Nixdorf, the RM400 machines being a collaboration between the company's French and German arms. The machines will be sold by the company's new mid-range systems unit, formed as part of SNI's recently announced re-structuring into divisions, regions, business units and system units. The unit is headquartered in Paderborn and is headed by Dr Rudolf Bodo.

Unix, Risc wins out over Intel and NT for servers

Unix and RISC is the core of SNI's "Open Systems Direction", especially as a server platform, and is even finding its way into the control systems arena, according to Dr Bodo. SNI claims market leadership in European mid-range Unix systems, saying it has some 3,000 RM600s out on the field. It has ceased further development on its Motorola 680X0 Targon products, and more surprisingly, on its Intel-based multiprocessor MX line. Judging from last week's Munich presentation, NT is not regarded as a serious prospect as a server product, although the company insists it "still has a strategic partnership with Microsoft" over NT. "We have decided in NT to concentrate on the lower end", said Dr Bodo. SNI claims that, having tried both, its Mips RISC technology offer considerable performance benefits over Intel's Pentium. Future multiprocessing Intel systems might emerge from the PC end of the company.

PINNACLE RELEASES NEW TURBOSPARC UPGRADES

Pinnacle Data Systems Inc has a new line of TurboSparc upgrades, which it says can raise the speed of the Sparc 3/80, 1, 1+, IPC, ELC, SLC, IPX and 2 workstations to 57 MIPS. The Columbus, Ohio-based company is using Sunnyvale, California-based Weitek Corp's 80MHz Sparc Power uP chip as an entire board upgrade, and claims to be the only one authorised to do so. Weitek is marketing Power uP as a customer-installed chip for the Sparc 2 and IPX. TurboSparc upgrades come with a year's warranty, and are hardware only, requiring no special drivers or operating system reconfiguration. Prices range from \$1,900 to about \$4,000.

NCR RE-JIGS SENIOR MANAGEMENT

NCR Corp has been doing a bit of reorganising and it seems that AT&T Co legacy Bill O'Shea, senior vice president, Network and Integrated Systems, has got responsibility for worldwide marketing while NCR veteran Tom Mays, senior vice president, General Purpose Product Group, heads up development. Meanwhile, NCR went over to a customer-focused business model last week, attaching teams of marketing, development and production personnel such as operating systems experts to about 750 key accounts worldwide. It grew out of a pilot at about 150 sites started last year.

CONCURRENT DEVELOPS REAL-TIME EXTENSIONS TO SVR4.2MP

Concurrent Computer Corp has agreed to partner Novell Inc's Unix Systems Group in developing real-time extensions to the Unix SVR4.2MP multiprocessor operating system. This is to ensure SVR4.2MP complies with the new IEEE Posix 1003.4 standard for real-time computing. The first offering will include queued signal capabilities to ensure prioritised delivery of asynchronous event notifications and enable applications to include data value in a signal that identifies a particular event. Concurrent will release its own implementation of SVR4.2MP, or version 7, of its Real-Time Unix operating system, by the second quarter of 1994, USG will follow with a standard about six months later. Version 7 will be backwards-compatible with former releases, but users will need to recompile their applications.

THOMSON-CSF's CETIA OFFERS POWERPC-BASED VME BOARDS

The Cetia SA subsidiary of Thomson-CSF SA's Information and Technology Group, has launched the first two products in its PowerEngine range of VME single-board computers based on the IBM PowerPC 601 microprocessor. The two products are the VMTR2, a high-performance VME board and the VGPW2, a VME board optimised for real-time and embedded applications under POSIX 1003.4-compliant operating systems. The VMTR2 performance has been measured at 60 Specmarks 92 in integer mode and 80 Specmarks 92 in floating-point mode, at 66MHz. It supports the UNI/XT and UNI/RT5 operating systems - UNI/RT5 is based on LynxOS technology from Lynx Real-Time Systems Inc. The VGPW2 runs the UNI/RTR5 LynxOS. Cetia says it has already begun installing and supporting PowerEngine units at independent software vendors, third party and integrator beta test sites worldwide. It has also started offering other support activities, including the establishment of software qualification and porting centres in Palo Alto, California and Les Ulis, in France.

NEC ADDS NEW MODELS TO ITS MIPS UNIX FAMILY

NEC Corp has new models in its 4800 series of Mips Technologies Inc RISC-based Unix workstations. The seven models announced for the Japanese market include the UP4800/680 and 660 servers with a maximum of eight or four processors and a performance of 1,192 MIPS and 596 MIPS respectively. The EWS4800/150LT has a high-resolution colour thin-film transistor screen with a maximum of 1,670 colours, while a similar model with a 256 colour screen costs less than \$18,860. Some models make use of the R4400SC chip, which at 75MHz provides a maximum of 1.4 times the performance of previous models. The operating system for multiprocessing machines, such as the UP4800/680 and 660 series, will be the yet-to-be-officially released System V.4.2MP. Work being done by NEC's Princeton research laboratories in conjunction with Unix System Laboratories Inc in New Jersey means that the multiprocessing operating system will be available on NEC systems from the end of December this year. According to Mr Kataoka, head of the Workstation Sales Division at NEC, demand for Unix workstations and servers in the business field has increased with the current recession, as more companies install them to share the load with expensive ACOS mainframes and over-burdened personal computers. The UP series servers and EWS series workstations are increasingly used in core business activities, with the multiprocessor servers designed for use in transaction processing applications. Rate of growth in the business field exceeds that in the technical (read computer-aided design) fields and has taken up the slack from sales in the software development. NEC expects to sell around 20,000 of its 4800 series workstations and servers this financial year, and sales in the first quarter just ending, are on target at around 8,000 machines.

THIRD QUARTER GLOOM LOOMS

The third quarter US reporting season is upon us and *Reuter* has been polling analysts about computer stocks to find that a sea of red ink is in prospect, with IBM Corp and Digital Equipment Corp both expected to report losses, without any restructuring charges. DEC gets about half its revenues from Europe, where sales have been falling sharply, and IBM gets about 40% from Europe, the Middle East and Africa - "Between Europe and currency it's going to be rough - there are no signs that Europe is getting better," said First Boston analyst Curt Rohrman. Compaq Computer Corp is expected to show a better picture, with the largest profit gains for a personal computer firm, but Apple Computer Inc is expected to report another quarterly loss, closing out its fiscal 1993, which was one of the most troubled periods in its history. The First Call average of analysts' estimates show a 7 cent a share loss for Apple, a \$1.05 a share profit for Compaq, negative 23 cents for DEC, a \$1.21 profit for Hewlett-Packard Co, a 28 cent loss for IBM - that translates to a \$160m or so net loss, a 58 cent profit per share for Stratus Computer Inc and a 22 cent profit per share for Sun Microsystems Inc.

TEKTRONIX DEBUTS NEW COMMERCIAL X TERMINALS

Tektronix Inc, Beaverton, Oregon, has come up with a new XP100 range of X Windows terminals. The six models in the series are effectively cut-down versions of the recently launched high-end XP350 line, tailored for the commercial market. Like the XP350s, the new XP100s use LSI Logic Corp's 33020 GraphX version of the Mips Technologies Inc R3000 RISC - running at 25MHz (in all but one case) rather than 33MHz as in the XP350 series. The six run X11R5 and V6.3 of the company's XpressWare bundle of local client emulation as well as windowing, printing and administration software. They come with from 4Mb to 20Mb RAM, two serial ports and an optional parallel port, an autoselection mechanism for configuration with thick, thin or twisted pair Ethernet and flash boot ROM. The 15" monochrome XP115M is a 1,024 x 768 device and is rated at 1.51 Xmarks. The XP119M - the only 33MHz model in the series - is a 19" monochrome display with a resolution of 1,280 x 1,024 and performs at 1.9 Xmarks. The 14" colour XP114C performs at 1.6 Xmarks and has 1,024 x 768 pixels. The 17" mono XP117C displays 1,152 x 900 pixels and performs at 1.6 Xmarks. The XP119C is a 19" colour display with 1,152 x 900 resolution performing at 1.6 Xmarks. The XP100 is a module-only device. Prices go from \$1,400 or £920 for the module, £1,900 for the XP114C, £2,110 for the XP119M, £3,000 for the XP117C and \$4,700 or £3,710 for the XP119C. All are available from November. Each has a single expansion slot, as opposed to the three on the XP350s, and use 32-bit, as opposed to 64-bit memory chips. Half the firm's X terminals go to the commercial market, such as OLTP - it shipped 18,143 of the things in 1992, and expects to exceed 36,000 sales in 1993. Although it doesn't break out its figures, Tektronix says X terminals account for some 8% or 9% of the company's \$1.4bn turnover, and it is a profitable concern. X terminal software development costs now far outstrip the cost of the hardware itself, Tektronix says.

WOODSIDE TECHNOLOGIES UPGRADES FORTRESS SECURITY PRODUCT

Sunnyvale, California-based Woodside Technologies Inc has upgraded its Fortress system security software adding cryptographically secure RSA MD4 and MD5 file inoculation, a first in a commercial Unix product, plus support for Motif and Open Look interfaces and a directory-tree database editor to simplify the task of selecting files for security protection. It works on Sparc SunOS 4.1.X and IBM Corp AIX machines, with Solaris and HP-UX versions due by the end of the year.

SUN LAUNCHES NEW IMAGING AND MULTIMEDIA WORKSTATIONS

Sun Microsystems Inc introduced new imaging and multimedia workstations last week. The machines comprise the SparcStation 10SX starting at \$15,500; the SparcStation 10M starting at \$17,100; and the SparcClassic M for \$5,000 in quantities of 12 or more. The SparcStation 10SX is targeted at the image processing market, and has a graphics and imaging application specific integrated circuit (ASIC) in its memory subsystem. The ASIC can manipulate 300Mb images, and provides 24-bit, Z-buffered, three-dimensional graphics as well as hardware-accelerated video playback capabilities. Furthermore, both Eastman Kodak Co and Adobe Systems Inc have agreed to licence and resell the 10SX and will bundle their own products with it. Adobe will give 10SX customers a complimentary copy of Adobe Photoshop until March 1994, while Kodak intends to make Photo CD display and editing capabilities available on the next release of Solaris. The SparcStation 10M is the same as the 10SX, but also incorporates a real-time video capture and compression SBus card developed by Sun - as does the SparcClassic M. The card is based on C-Cube Microsystems Inc's VideoRisc Compression Processor and provides 320 by 240 encoding resolution. It supports various video compression standards, such as MPEG and JPE, and enables compression and capture to be performed at 30 frames per second. This, according to Sun, makes both machines suitable for multimedia authoring and video conferencing. They also come with a video camera and CD-ROM disk with licensable video and multimedia programs, and will start shipping on December 15. Existing SparcStation customers can also buy a separate "multimedia bundle" for \$1,900. This includes the SunVideo capture and compression card, a video camera and CD-ROM disk. The SunVideo card alone costs \$1,500. Meanwhile, Sun has also released a new multiport Ethernet controller card for any of its Sparc-based machines, running Solaris 2.3 and up, which have an SBus slot. The SBus Quad Ethernet Controller (SQEC) has four fully-buffered twisted-pair ports, which each run independently at 10 Mbits per second. This means customers can divide heavily loaded local area networks into four smaller networks - or if multiple cards are used up to 20 smaller ones. Performance and reliability should improve as a result because fewer machines are affected in the event of traffic overload or a network fault. SQEC costs \$1,000 and will be available from November.

SUNSOLUTIONS DEBUTS SHOWME 2.0 FOR VIDEOCONFERENCING

Sun Microsystems Inc SunSolutions has introduced ShowMe 2.0 for Sparc-based workstations, which it is targeting at the videoconferencing market. The product comprises ShowMe Video and Audio, which enables customers to automatically adjust their bandwidth allocation so as to optimise network use - it also comes with video cameras that are mounted on each customer's machine; ShowMe SharedApp, which enables multiple users to interact with live applications simultaneously in real-time - SunSelect's Wabi is also included to enable users to share Microsoft Corp Windows applications; and an improved ShowMe Whiteboard. This now supports X terminals, 24-bit images and multiple sessions running on a single CPU. As a result, customers can display, discuss, edit or annotate documents, images and video as well as share applications via an Open Software Foundation Motif graphical user interface. ShowMe 2.0 will be available at the end of 1993 via SunSolution resellers. It will cost \$3,270 for a single license, and \$8,430 for a three-user license - each license includes a video camera, video board, CD media and documentation.

ADOBE LAUNCHES ADOBE PHOTOSHOP 2.5 FOR SUN AND SGI WORKSTATIONS

Mountain View, California-based Adobe Systems Inc has released Adobe Photoshop 2.5 image editing software for Sun Microsystems Inc, running Solaris 2.3, and Silicon Graphics Inc workstations. This has the same features as existing Macintosh and Windows versions, and creates binary-compatible files that can be shared with them via a disk or network. Photoshop 2.5 is expected to ship in November. It will be network-licensed, and cost \$1,895 for a single floating or right-to-use licence; \$ 7,595 for a five right-to-use one; and \$13,495 for a ten right-to-use one. Adobe Photoshop was ported to the new systems using Menlo Park, California-based Quorum Software Systems Inc's Quorum Latitude 1.5 cross-platform development kit. Adobe claims Latitude saved it two years of development time. Photoshop 2.5 is available now and development licences cost \$6,000.

DEC HAS ALPHA FOR US WEST FULL-SERVICE NETWORK TRIAL

Digital Equipment Corp plans to offer an Alpha AXP server to deliver video-on-demand and other interactive services for the proposed US West Inc trial of a full-service network in 1994. Other interactive services include movies, video games, home shopping, education and general information. DEC said it developed the new server specifically to meet the requirements of an all-digital broadband network infrastructure. It uses disk arrays developed by StorageWorks Inc, and Digital Linear Tape library subsystems. DEC will work in partnership with 3DO Co on the Omaha, Nebraska trial - the latter is doing interactive technology for video-on-demand and other programming.

ORACLE'S ELLISON SUED BY FORMER EMPLOYEE

Former Oracle Corp employee, Adelyn Lee, is suing president and founder Larry Ellison, claiming she was fired after ending their sexual relationship, the *Dow Jones* newswire reports. Lee was hired in May 1990 as a temporary marketing assistant and became marketing co-ordinator in less than a year. She says in the suit that her relationship with Ellison started in November 1991 and ended last April. But when she went to his home in Atherton on April 16 to tell him she was considering a break-up, he "struggled with (Lee), pulled her into his bedroom and pushed her into his bed in an effort to force (Lee) to have sexual intercourse". Lee was reportedly fired five days later and seeks unspecified damages. Ellison replied with a strongly-worded statement saying, "Oracle believes that the facts of the case will clearly show that the lawsuit has been a carefully planned attempt to extort money from Oracle Corp - efforts which included Ms Lee's forging electronic mail under the name of her direct supervisor, Mr Craig Ramsey, of USA commercial sales at Oracle". While Mr Ellison saw Ms Lee occasionally outside of the workplace, the character of the relationship and the events described in Ms Lee's complaint are fictitious inventions designed to smear Mr. Ellison," Oracle said, adding that Ellison was not involved in the decision to dismiss her.

CRAY FORMS CRAYSOFT UNIT

Cray Research Inc has formed a new unit, CraySoft to develop and market the company's software for other firms' systems, including personal computers, the Apple Computer Inc Macintosh, workstations and servers. CraySoft's first product is Network Queuing Environment, a tool that enables workloads to be balanced across a variety of systems, starting with Solaris 2.2 on Sparc at \$3,000 for a 10-user server licence. Other workstations are also planned, and the Fortran 90 Programming Environment will follow.

UNIFACE RELEASES "ENABLEMENT PACKS" FOR CASE TOOLS

Alameda, California-based Uniface Corp has started shipping computer-aided software engineering enablement packs. These include a CASE Bridge for 16 CASE tools, including ADW from KnowledgeWare Inc, CDD/Repository from Digital Equipment Corp and Excelerator from Intersolv Inc; Uniface Model Synchronizer, which ensures that a given CASE tool's repository and the Uniface application repository continuously mirror each other, providing consistency between the model and the application - this means changes made either to Uniface or the CASE tool are detected and automatically reflected; and "CASE Interface Guidelines" documentation. The Enablement Packs are available from Uniface Corp or third-party vendors and range from \$3,000 to \$15,000, depending on CASE Bridge, hardware, and configuration.

CLAM RELEASES FIRST HIGH AVAILABILITY CLUSTER DIAGNOSTIC SOFTWARE FOR PCs

Cambridge, Massachusetts-based Clam Associates Inc has launched its first high-availability cluster information service program for client machines. C1 Watch, which sits on a personal computer client, running Microsoft Corp Windows 3.1, informs users if a fault or system failure occurs, so they - or the applications - can take action. The product essentially tracks cluster, node and interface status, and notifies the client of any changes in the cluster topology. It is targeted at commercial organisations that process real-time data and transactions, and need their users to be connected to an IBM Corp RS/6000 database server, running high-availability cluster multiprocessing software, at all times. C1 Watch costs \$100 per license, and site licenses for up to 100 clients cost \$5,000.

MICROPROCESSOR NEWS

CYRIX'S SUPERFAST iAPX-86 PARTS WON'T NEED RECOMPILATION

Cyrix Corp last week unveiled its new M1 superscalar, super-pipelined architecture for iAPX-86-compatible processors, which it claims is the "only architecture superior to both Pentium and RISC". The Richardson, Texas-based company attests that parts based on the architecture will clock at 100MHz and more, and deliver one SPECint per MHz. It also reckons they will provide a 40% to 60% performance increase over Intel Corp's Pentium running non-recompiled software code and an increase of between 10% and 15% over Pentiums running recompiled code. On the RISC side, performance will increase 12 times, it claims, because RISC chips have to emulate x86 code - this reduces performance to the equivalent of a 25MHz 486 processor. M1-based chips, conversely, run x86 code native, and unlike the Pentium do not need software to be recompiled to take advantage of the extra performance. Cyrix has achieved this in several ways. It has expanded the limited iAPX-86 register set to 32 physical registers, implemented register renaming, included result and operand forwarding, data by-passing, branch prediction, speculative execution and out-of-order execution. The first chips are scheduled for next year and will be targeted at the business workstation market rather than the technical world. They will be manufactured by SGS-Thomson Microelectronics BV.

SECOND GENERATION ALPHA RUNS AT A BLISTERING 275MHZ

Digital Equipment Corp was not going to be left out of the chip fest - well it was the *Microprocessor Forum* in San Francisco last week - and so the company announced its second generation Alpha AXP RISC, the DECchip 21064A. The new part doubles the size of the on-chip cache and comes in 225MHz and 275MHz versions, with the faster rated at 170 SPECint92 and 290 SPECfp92. Overall performance of the 275MHz version is said to be 50% better than the existing 200MHz 21064. The parts will be fabricated in 0.5 micron 3.3V CMOS at DEC's South Queensferry, Scotland, and Hudson, Massachusetts, plants. The slower one samples in December with volume in July at \$970 for 5,000-up. Samples of the faster follow in March with volume one year away, at \$1,595 for 5,000 or more.

AT&T UNVEILS SECOND GENERATION HOBBITS

AT&T Co last week expanded its Hobbit RISC family with three new chip sets designed for different design points from minimum power consumption to comprehensive communications. The Hobbit is a "RISC-like" processor optimised for C, and the three new ones are the 20MHz ATT92020S version, which is rated at 16 VAX MIPS, the ATT92020M, rated at 13.5 VAX MIPS, and the ATT92020MT, rated at 11 VAX MIPS. The 92020S includes 6Kb three-way set-associative instruction cache, 256-byte stack cache and 32-bit address and data buses. Pin-compatible with the original ATT92010, it draws 210mW when active, one microWatt in sleep mode. It supports the ATT92011 system controller, 92012 four-channel PCMCIA interface, 92013 auxiliary input-output interface and 92014 display controller. The 92020M is a more highly integrated version. It comes as a set with the 92021M system controller and 92024M display controller, and offers the performance and power drain of the 92010 in a more highly-integrated chip set. It has 6Kb pre-fetch buffer and 32-bit multiplexed address and data bus. The system controller includes a dual-channel PCMCIA interface with a choice of 16- or 32-bit ROM data path. The most highly integrated part is the 92020MX, which needs just the 92021MX system controller and memory for a complete system. The company reckons that designers can build personal communicators as small as cellular telephones with it, and get close to 24-hour battery life. It has 3Kb pre-fetch buffer and 32-bit multiplexed address and data bus. The integral video controller supports up to 640 by 480 pixel resolution. All run at a maximum 20MHz off 3.3V, but will go up to 30MHz with a 5V supply. Samples of all three are out now, with volume in first quarter 1994 at \$32 for 10,000-up of the 92020MX to \$37 for 10,000-up of the 92020S. AT&T's Eo Inc affiliate uses the earlier Hobbit.

NEC SAMPLES LOW-POWER R4200...

NEC Corp is now sampling the VR4200 version of MIPS Technologies Inc R-series RISC, saying that it makes 64-bit Windows NT portables a reality. The VR4200 runs at 80MHz internally, 40MHz on the bus, and is optimised for 3.3V operation, dissipating under 1.5W, 400mW in standby. Simulated benchmarks rate it typically at 55 SPECint92 and 30 SPECfp92. Samples cost \$80 now, and the chip will go into volume production in April.

....ADDS THE V820 TO ITS FAMILY OF SKINNY RISCs

NEC Corp has extended its V800 series skinny RISCs and is to market a 32-bit microprocessor known as the V820 or uPD70742, designed for use in embedded applications. The microprocessor, the latest in the V800 series, integrates 380,000 transistors on a 10.7mm square chip. The chip incorporates on-chip peripherals and a direct memory access unit with a 32-bit linear address space. Initial production volume is scheduled to be 40,000 units per month from January 1994. NEC reports that it is now working on a low-voltage version of the V820 chip.

603 VERSION OF POWERPC MAKES ITS DEBUT

Motorola Inc and IBM Corp unveiled the PowerPC 603 last week, the second low-power consumption member of the RISC processor family. The new chip, which has already begun sampling to the chosen few, has performance comparable to the PowerPC 601, is smaller and only draws 3W when running flat-out at 80MHz, compared with 9W for a 66MHz 601. The 603 - designed with Apple Computer Inc - will also be cheaper than its predecessor, though exact pricing was not announced. The new part begins sampling properly in the first quarter next year, with volume production set for the second half. It is manufactured by Motorola in Austin and IBM in Burlington, Vermont. Once the 603 is out, it is likely the PowerPC 601 will be consigned to a niche - the only real benefit of the older chip is its intelligent caching support for multiprocessing and a marginally better floating point performance. The designers of the second generation chip benefitted from experience - the 603 has 1.6m transistors, compared with the 601's 2.8m. This reduction in numbers is partly due to the simplified cache, but mainly due to cleaning up the design, according to Motorola. Die-size is also down to 85mm from 120mm square and the pin count drops to 240 from 304. Inside, a number of techniques have been used to cut power use: in automatic power management mode, the chip dynamically switches parts of itself (such as the floating point unit) into power-saving mode, when not needed. There is no performance hit from this, says Motorola. The programmer can also issue a command to change clock speed dynamically in mid-application, and bus speed multiplies by as much as four. At the moment, the maximum guaranteed internal speed is 80MHz, though this is likely to be upped in future. Apart from its role in personal computers, the 603 is designed to act as the core for embedded processing.

ADVANCED RISC MACHINES DESCRIBES ARM700 LOW-POWER RISC

Advanced RISC Machines Ltd, Cambridge has announced the latest iteration of its RISC, the ARM 7, offering higher performance, lower power consumption and improved signal processing support. It has also implemented an innovative debugging system in the silicon to help fault-find in embedded systems. GEC Plessey Semiconductors is the first of the ARM licensees to start sampling the new part and is pricing the ARM700 processor at around \$35 each, in quantities of 10,000; volume is set for early next year. The ARM700 is the stand-alone processor equivalent to the ARM600, though it is not being positioned as a successor. Where the 5V ARM600 runs at 25MHz, consumes 180mW, and does 24 MIPS, the ARM700 runs either in a 5V, 33MHz or a 3V, 20MHz mode. In both the ARM700 draws less power than the older chip. At 20MHz the new chip runs slower than the ARM600, but at 33MHz, it is rated at 29 MIPS, only commensurate with the increased clock speed.

ALPHA OUTLOOK BLEAK FOR DEC AS FIRST QUARTER TURNOVER FALLS BY 9%

The jury has been out for about 15 months on whether Digital Equipment Corp's Alpha RISC machines would represent a dramatic leap forward for the group or simply an awkward transition from the VAX architecture - but things are starting to look ominous: the company's first quarter loss of \$0.62 a share or net loss of \$83.9m - and that after an exceptional gain of \$0.14 a share or \$20.4m, was worse than analysts expected. A new round of downgradings resulted on Wall Street. The worst thing was turnover plunged 9% to \$3,015m - at this stage, given the Alpha is a completely new product line, there should have been pent-up demand from the VAX base and revenues should have risen significantly. So, either DEC can't get the machines out the door fast enough, or demand is simply not there. PaineWebber analyst Stephen Smith told Reuter that the most current consensus on First Call was a loss of \$0.34 a share. "Alpha is getting off to a slow start," he added, "It's not becoming significant in terms of revenue. They are going to have to price it aggressively in order to get attention." DEC said weakness in Europe, especially in Germany and Italy, was a primary contributor to its fall in turnover. Product sales overall were off 12% at \$1,557m, and even services were down nearly 6% at \$1,458m. Gross product margins also declined a whopping five points in the first quarter from a year earlier - something that can only be taken care of by fast-growing sales. DEC blamed its margins drop on revenue decline and a continued shift to lower-price, lower-margin products. It said the effects of its restructuring programme are on schedule and, as a result, research and engineering spending declined 22% or \$90.7m in the first quarter from a year earlier. Sales, general and administrative expenditure was reduced by a healthy 23% or \$258.9m. The company did have double-digit growth in both revenues and units in personal computers and Unix workstations in the quarter, but both come from a low base.

OLIVETTI TO RELEASE NT-ON-ALPHA SERVERS NEXT MONTH

Although Ing C Olivetti SpA has been selling Digital Equipment Corp Alpha AXP client machines running Microsoft Corp Windows NT since June, a dedicated NT high-end workstation/low-end server won't appear for another month or so. The RS7 500 - otherwise known as the Alpha 2000 range - is targeted at users of high-level graphics and imaging software, at publishing houses and financial institutions. So far, Alpha boxes have been sold mainly to selected large accounts, independent software vendors and Olivetti value-added resellers to build up the applications base. But the group says it will begin selling client machines in volume in the first quarter of 1994, servers in the second half of that year. It has no plans to manufacture its own Alphas yet, even though it does have the option to do so in Italy. Conversely, although customers can run NT on Olivetti's Intel-based client and server range, they must, at the moment, buy the operating system separately. The company may well release a dedicated Intel-based NT server next year, however, and is currently rewriting selected Unix applications for NT in such areas as banking, finance and the public sector to stimulate growth - it doesn't believe that sales of NT machines will make much impact on 1994 turnover figures, though. Olivetti has also been selling the Alpha 3000 line running OSF/1 in Italy for the past couple of months as a "market test". This range is aimed at the small workgroup market and is rebadged as the LSX7300. If sales takes off, the boxes will be offered elsewhere. But Olivetti is quite adamant that it will continue rebadging and supporting both old and new Pyramid Technology Corp machines at the high-end - unless Alpha sales really take off. Finally, at the end of last month, it released version 2 of its dual host functionality for Unix SVR4 running on Intel-based machines. This essentially enables two systems doing different jobs to share mission-critical applications. So, if one fails, the other will stop doing its own less important tasks and immediately take over the more critical ones of its sister. With version 1, only one machine could take over system control, but version 2 enables both to do so. No pricing was available.

SOFTPC FOR NEXTSTEP 3.2 : PORTABLE OBJECTS OUT FIRST ON HP VERSION

NeXT Computer Inc's new version of its NeXTStep object-oriented operating system for Intel Corp hardware will support Insignia Solutions Ltd's SoftPC with Windows 3.1 and MS-DOS 5.0 pre-installed (UX No 457). NeXT is the first to use Insignia's new technology. This means that NeXTStep users will be able to use "legacy" Microsoft Corp MS-DOS and Windows applications - these will run as separate tasks in their own right and sit in a separate window. Customers will be able to cut and paste between the two environments. NeXTStep also includes added drivers - and NeXT desperately needs to support more hardware. To help cross this hurdle, it has come up with DriverKit, an object-oriented framework that apparently enables developers to write Unix drivers faster with significantly less code than usual. It also includes public application programming interfaces, which support sound, SCSI, graphics and LAN devices via dynamically loadable drivers. In addition, 3.2 provides full support for 32-bit colour graphics for the first time. It is backwards-compatible with version 3.1 and will be available from mid-November. Although free for existing 3.1 customers, it will cost \$800 for a one user deployment licence if you register before October 31, and \$200 for users of earlier NeXTStep versions. A one user developers licence is \$2,000, free for 3.1 customers and £500 for users of older versions.

Portable distributed objects

The Redwood City, California-based firm also plans a native port of the NeXTStep environment for HP Precision Architecture RISC-based workstations in the second quarter of 1994, and intends to release the first version of its Portable Distributed Objects (PDO) software (UX 441) for Hewlett-Packard Co HP 9000 servers on November 15. PDO will essentially sit on top of HP UX 9.0 and enable customers to use NeXT objects and class libraries. The company has uncoupled the NeXTStep graphical user interface from the object engine, which means it can run on HP servers, linked to either Intel-based or NeXT client machines. As a result, application performance improves because most operating system processing is carried out on the server. PDO should also make it easier to develop enterprise-wide object services. *PC Week* says a PDO developers' kit for HP 9000s will ship next month, but reckons a PDO port to Data General Corp's AViiON servers is next on the list. After that, the most likely candidates are Sun Sparcservers, *PC Week* says, but the firm is also discussing ports with three other server vendors, including NCR Corp and IBM Corp. Meanwhile, NeXT has introduced an "Object Channel" programme for systems integrators. Members will jointly sell NeXTStep with NeXT; get fixed-price contracts at a lower cost; receive two copies of NeXTStep Developer and NeXTStep for Intel-based machines as well as one free upgrade; an engineering scholarship to the Object University; discounts for product resale; discounts on additional copies of NeXTStep; training; and one year's free hotline support.

ACCESSLINE, STRATUS WOO PERSONAL COMMUNICATIONS SERVICES CARRIERS

Stratus Computer Inc and AccessLine Technologies Inc have signed a strategic marketing and technology alliance for joint targeting of telecommunications carriers in the Personal Communications Services market. Bellvue, Washington-based Accessline is to base the next generation of its Personal Communications technology on Stratus's fault-tolerant Unix computers, using the latter's Intelligent Network Applications Platform development software. Accessline has become a value-added reseller for Stratus in the US and Canada. First system developments, due this fourth quarter, will use Accessline's One Person, One Number system for consolidating several telephone numbers into one.

FUJITSU LAUNCHES NETWALKER FOR SUNS

Fujitsu Open Systems Solutions Inc has released the initial elements of its new NetWalker network management toolset for TCP/IP local or wide area networks. NetWalker works with all SNMP-based hardware products, and comes with either an OSF Motif or Open Look front-end. The product includes Fault Management, System Configuration and Management, and Performance Management tools. It runs on Sun SparcStation IIs, running SunOS 4.1.1 or higher. No prices available.

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In support of the COSE Common Desktop Environment (CDE), **National Information Systems Inc** in San Jose, California has opened an Open Look to Motif Migration Centre, a joint venture with **Kovi Design Automation**. Pricing is based on a fixed-fee schedule starting at \$1,000. The centre will translate C or C++ applications written in XView, Devguide or OLIT. Users can send up to five source code files as a test case. The centre's staff will translate them using the company's Accent STP.

Andrew Allison, editor of *RISC Management*, thinks **Sun Microsystems Inc** is 18 months too late in trying to nose its way into the chip-selling business (UX No 457) and somehow redeem its spoiled clone business.

Sybase Inc has won the bid to supply its database and GainMomentum multimedia tools for the World Cup USA 1994 football championship. The products will be used to build an information system, running on **Sun Microsystems Inc** hardware, for managing the matches and supporting operations across nine US cities. **Electronic Data Systems Corp** will develop event and office management applications and integrate the respective vendors' technology.

The PowerPC 604 successor to the 601 is due to ship next year, together with first silicon on the 64-bit 620. But there is still no direct confirmation from **Motorola Inc** and friends that Windows NT will run on the PowerPC - Motorola is said to be doing this work - although there have been strong hints that a PowerPC machine running the **Microsoft Corp** operating system will make its debut at the Comdex/Spring show.

Motorola Inc and its partners say that in Europe alone 10 to 15 companies are working on PowerPC-based systems, many of them embedded applications, mainly in the telecommunications and printer markets.

IBM Corp is taking multimedia so seriously that it has created the new post of general manager for multimedia systems, with Paul Loftus as the first incumbent. Loftus was formerly president of the services sector division of IBM's Application Solutions arm.

The **Data Management Interfaces Group** (DMIG) formed this summer (UX No 445) says it will reveal the first fruits of its labours during the first quarter 1994. The Group's specification, which is intended to standardise the way data management applications work with the Unix operating system, will then be submitted to X/Open for ratification. Jim Bowerman, VP of member company **Raxco**, declared the Group has not yet decided what, if any, its role will be once this is done.

ICL Plc says it hasn't yet put its CAFS database accelerator technology up on the new Goldrush machines, but says that it does plan to do so in the future.

Apple Computer Inc says it will offer PowerPC upgrades for its current Workgroup Server line, but is not planning any upgrades for its existing Centris users as it also expects them to wait for PowerPC upgrades next year.

Why the name Goldrush for the new Megaserver, **ICL Plc's** chairman and chief executive Peter Bonfield was asked: "Because we needed the money and we were in a hurry," he said.

The first Common Desktop Environment specifications will be unveiled at the CDE Developers Conference this week in San Jose, California. The conference is being hosted by **HP, IBM, Novell, SunSoft SCO, the UniForum Association, Computerworld, Open Systems Today, and Unix Review**. And UniForum reckons it's got 700-odd corporate and ISV developers, VARs, consultants and engineers coming.

The **Petrotechnical Open Software Corp** will release its Data Access and Exchange sample implementation source code on December 15. The sample implementation is an insulating software layer that provides standard access to data, independent of database management software. Used with other POSC offerings, the program enables technical software from certain vendors to share common data with a customer's data store. POSC also released its Epicentre Browser last week, which enables users to navigate the Epicentre data model on screen. No pricing was available.

IBM will resell **Evans & Sutherland Computer Corp's** high-end graphics accelerators for the RS/6000 from the first half of 1994.

Requiescat in Pace: Palo Alto, California-based **Highland Software Inc's** senior vice president Jay Orlando, 52, died of a heart attack Friday October 15. He had no history of heart trouble. His sales and marketing responsibilities have been assumed by executive vice president Paul Lansky.

You can kiss the NCR part of the **AT&T-NCR** trade name good-bye, according to *Business Week*. Apparently there's a move afoot to find a new identity, although a final decision isn't expected for at least another month. However, the company went into retail sales last week, with an NCR-made personal computer line branded simply AT&T. Sic transit gloria mundi.

MasPar Computer Corp has named John Harte as its new president and chief executive. Harte was recruited from **Mercury Computer Systems Inc**. Jeffrey Kalb will assume the role of chairman and concentrate on the company's strategic direction. MasPar recently appointed ex-Teradata chief executive Ken Simonds as vice chairman.

SunSoft is said to be interested in doing something with the NeXTStep object-oriented operating system, but can't get its hands round a deal with boy-wonder Steve Jobs.

Wang Laboratories Inc's chairman and chief financial officer since only January, Michael Mee, has resigned because he says "The job that I was brought in to accomplish at Wang with Don Casey and Joe Tucci has been completed". He will be replaced as chairman by Joseph Tucci, and will retain his post as chief executive. Donald Casey will also remain president and chief development officer. The firm is also publicly going to offer a 70% equity interest in its New Zealand subsidiary, reportedly one of its more successful operations.

Mountain View, California-based **Elan Computer Group Inc** is shipping version 2.3 of its Elan License Manager software licensing toolkit, which now supports licence sharing between Unix, Microsoft Corp Windows and Windows NT environments. It also provides native System V IPC support for x86 environments such as SCO Unix that is not bundled with the TCP/IP networking protocol. The new product is available in both source and binary forms as either an upgrade to existing customers or for \$7,500. It also comes with a software developers application.

The UK government plans to relax the rules governing export of computer equipment to China and former Comecon countries.

The **PowerOpen Association** is aiming to complete its base definition of the PowerOpen Application Binary Interface by the end of this year, president Tom Mace told *Newsbytes*.

Monday October 25 **Hewlett-Packard Co** is set to bring out a bunch of data centre models gussied up with a new high-end implementation of the PA-RISC 7100 chip said to be tuned for the commercial market.

Hitachi Ltd is lighting out after **AT&T's** Hobbit (see page 6), with a 32-bit RISC processor, the SH series, it will sample next spring in a 25-MIPS version. It's talking about boosting throughput to 300 MIPS-400 MIPS by 1996.

Adobe Systems Inc is providing Display Postscript Level 2 support for **IBM Corp's** new PowerPC workstations.

Back when **AT&T Co** and **Novell Inc** were negotiating over **Unix System Labs** - both when Novell first bought in and again when it bought the whole thing - the subject of AT&T and Novell merging came up on an informal basis. It's a subject Novell officials wouldn't mind revisiting again.

The French government is to pump another \$1,250m into **Compagnie des Machines Bull SA** - if it can get the huge subvention past the European Commission in Brussels.

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OSF TO DUMP CUT-DOWN DISTRIBUTED MANAGEMENT ENVIRONMENT INTO DCE

This week the Open Software Foundation, overburdened and listing badly, is expected to jettison its DME (Distributed Management Environment) technology, according to a whole gaggle of Unigram.X sources. They anticipate that OSF will tell its members it is no longer committing to DME as was originally envisioned and that it will retreat to a simplified DME meant only for the struggling consortium's other technology, DCE, its aggressive Distributed Computing Environment. Wanting to show something for the heavy expenditure on DME over the years, it is believed OSF will circumscribe it still further and shelve its pricing functions - one of the key reasons DME was needed in the first place. Such an eventuality could be a boon for a company like Austin, Texas start-up Atrium Technologies Inc - the only one we could think of with an applicable printing technology that also meets the de facto distributed printing Palladium standard. Atrium declined any official comment.

AS YOU WERE: NEWORG NOT A DEVELOPMENT ORGANISATION

Industry plans to form NewOrg have reportedly faltered over issues that the expanding group of companies somehow forgot to consider along the way (UX No 452). As a result, it appears unlikely that things will coalesce - despite round the clock meetings interrupted only by last week's Common Desktop Environment Conference - in time to meet the original announcement schedule set for early this month (UX No 456). In fact, sources say, the timetable has slipped at least twice, first to the early part of December and then again to around the first of the year. NewOrg's charter has also reportedly changed again, this time back to what it had originally been, namely not a development operation (UX No 456). This is said to be the result of conferences with lawyers the week before last, who warned the organisers against repeating the experience of the Open Software Foundation and possibly leaving the door open to lawsuits, such as the antitrust action lodged by Addamax Corporation against OSF and two of its founders, Hewlett-Packard Co and Digital Equipment Corp. Consequently, it seems unlikely that NewOrg will own any intellectual property, but rather act as a clearing house or job shop for contract work and a source of test suites. Oddly enough however, NewOrg will resemble OSF in other ways. At least it will have the same address, OSF's current headquarters in Cambridge, Massachusetts being the proposed site. Unix International president Peter Cunningham and OSF chief David Tory were reportedly both recently called to a meeting in California by NewOrg advisors McKinsey & Co and, after cooling their heels all day in the waiting room, were never actually called into the meeting. It is believed Tory, at least, was then told privately that his services would not be required by NewOrg and he immediately returned to the East Coast on the "Red Eye". Other OSF managers will also probably draw short straws. But what exactly will be done with OSF, the organisation, is still apparently up in the air. DEC and also reportedly Hitachi Ltd are more than anxious that OSF/1 somehow become part of the approved specification. Just about everybody else wishes it would just go away. With OSF's DME technology ostensibly dead (see above), that leaves Distributed Computing Environment and Motif. Companies such as Novell Inc, Sun Microsystems Inc, Fujitsu Ltd and ICL Plc would reportedly prefer to carve up the technology and license portions of it. How the technology could be moved into NewOrg without settling the Addamax suit remains to be seen. Currently it is believed the preference among those who don't want to drag OSF's baggage into NewOrg runs to transferring it to the OSF Research Institute and hiving that off somehow.

NOVELL WINDS DOWN DM PROJECT, TRANSFERS APPS TO OPENVISION

Novell Inc's Unix Systems Group is said to be quietly planning to dump its Distributed Manager (DM) project - an iteration of the Open Software Foundation's Distributed Management Environment (DME) technology that its predecessor organisation Unix System Labs put together - because it now has the recently introduced Novell Distributed Management Services (NDMS) scheme as a substitute. As a result, it seems, OpenVision Inc, the high-powered distributed systems management start-up, is supposed to pick up the suite of applications that Pyramid Technology, Unisys Corp, Siemens Nixdorf and USL stitched together to comprise DM. At least that was the plan as we went to press last week, just as rumours started circulating that USG might be pulling back from the arrangement (see page two). OpenVision, which if it gets what it wants will, uniquely, have both administration and management products, intends submitting the technology to X/Open Co Ltd as a spec that it hopes COSE will accept as its systems management solution. After distributing the products in their current form, it plans to migrate them to its own modular object-oriented environment as a way of eventually integrating them with Novell's NDMS. Pyramid, SNI and Unisys will continue to support their respective products within the OpenVision environment and offer the consolidated suite under their own labels. The move is believed to be a slap in the face for Tivoli Systems Inc - although DM is based upon a now superseded version of Tivoli's TMF framework - also yearning to be blessed by X/Open Co Ltd, whose monolithic framework the OEMs are said to be rejecting.

SILICON GRAPHICS TO CONFRONT ITS FINAL FRONTIER

Despite company chairman and chief executive officer Ed McCracken's quip that "we want our systems to make money, not count it," (UX No 407), Silicon Graphics Inc is currently dressing-up its high-end, 64-bit symmetric multiprocessors with all the trappings of the commercial systems world, and is expecting to enter that market "more formally" within three to six months. SGI, known predominantly for its expertise in graphics and multimedia - and given its widest public exposure via its role in creating computer animated scenes for the Jurassic Park film - is currently working with database and other software partners on preparing TPC measurements for of an assault on what it calls its "final market." Initially, SGI will offer commercialised versions of its top-end Challenge and Power Challenge servers - although in a more sedate beige or grey livery than the indigo or crimson we're used to. Ground-up commercial boxes are likely to follow. The group expects existing OEMs - Tandem Computers Inc, Siemens Nixdorf Informationssysteme AG, Pyramid Technology Corp and the like - to take the systems under existing arrangements. Challenge machines use up to 36 SGI subsidiary Mips Technologies Inc's R4400 RISC chips - Power Challenge will feature up to 18 of the high-end floating-point intensive TFP R4000 variants being co-developed with Toshiba Corp. TFP and Power Challenge, were both scheduled to ship at the year-end, but as reported (UX No 452), delivery dates have slipped. Although first TFP silicon has been delivered, McCracken says one more pass at the chip is required before general sampling can begin. Shipments will begin by the end of the first quarter of next year. SGI has three server divisions, but the information servers unit, home of its commercial effort, is being run by former Pyramid staffer Ross Bott.

UNIGRAM EDITOR HEADS FOR THE STATES

As from next week, Unigram.X editor William Fellows is re-locating to the US, where he will be contactable at our existing offices on +1 516 759 7025. Meanwhile, Deputy Editor Cath Everett remains at our London offices on +44 71 867 9880. We encourage our subscribers to keep in contact, either with London or New York (or both).

OSF DME TOO LATE FOR LEGENT - PLANS ITS OWN XPE SYSTEMS GLUE

Back in late March, Legent Corp promised it would take a bold step into glue manufacturing - providing the cement to hold together client-server systems. Over the previous year it had been busily buying companies with the necessary adhesive properties in their lockers, and Legent's acquisitive streak has continued this year. The result is XPE, its cross system environment which the company boasts is the result of a three-year, \$50m. investment consisting of internal development, alliances, technology licensing agreements and acquisitions. Legent's approach has been to identify eight areas necessary to distributed systems management and then fill them, one way or another. The combined effect is a rather grandiose architecture designed to put Legent at the heart of controlling distributed systems. Anyway - you wanted to know why Legent was spending all that money? Now's the time to find out. *Chris Rose* reports.

Category one is **Distribution Management**, designed to transport data and distribute software programs quickly throughout the enterprise. At the moment it consists of two products: XCOM and Distribulink. The former fell into Legent's lap when it acquired Spectrum Concepts in January 1992. It is a file transfer package, built for unattended operations across multiple systems. Currently it supports around 20 different environments. Distribulink, by contrast is an in-house-developed package used to distribute applications, both shrink-wrapped and bespoke. However Legent says that, once again Spectrum Concepts proved "instrumental" in its development. Another acquisition working in the same area is Corporate Microsystems Inc snapped up in August, which is working to extend Legent's software distribution capabilities to Unix and OS/2 source systems. Legent also intends to exploit Corporate's existing Mlink offering, which handles file transfer across modem links between Windows personal computers, Macintoshes, Unix and IBM's 4680 point of sale terminals.

When it comes to category two, **User Administration**, however, the cupboard is still bare. The company is building a server from scratch to enable organisations to determine which users are on the network and their security ratings for accessing machines, software and data. There are no details as to what form this security server will take, or when it will appear, but the company says it is using a combination of its existing products, including N-Vision for Windows and licensed technology such as Tivoli Systems Inc's Tivoli Management Facility; Legent invested a "substantial sum" in Tivoli, last February.

Distribution, Back-up and Recovery products are also thin on the ground at the moment, but Legent reckons it has a set of tools in beta test and they are on schedule for delivery in December.

Software administration is the fourth category, with Legent promising tools to manage the software development lifecycle - from development through production. This part of the jigsaw is currently filled by just one product; its own Endeavor Workstation which deals with inventory management, change control, configuration management and so forth for workstation applications and mainframe applications, developed on the workstation. It's currently limited to MS-DOS, Windows and OS/2, but Legent says it will offer HP-UX, AIX and SunOS versions sometime next year.

Last month's acquisition of Networx Inc gave Legent its entree to **Network Problem Management** thanks to Paradigm, a Unix-based trouble-ticketing, help-desk and inventory management application. The software, which is currently resold by the likes of Synoptics Communications Inc and Ungermann Bass Inc, interfaces with Hewlett-Packard Co's OpenView, IBM Corp's NetView/6000 and SunNet Manager.

Capacity planning and performance, asset, and storage management are all lumped together by Legent's into its **Resource Management** category. The company is using its in-house Paramount software, while leaning heavily on an alliance with Hewlett-Packard, signed in September. Paramount is Legent's performance management application that acts as central point of control, sucking information out of the databases of its other products. Under the agreement the two companies will jointly develop, market and sell performance and resource management tools. In practice this means that they will integrate the Paramount architecture with HP PerfView and some other of its Unix-based tools. Legent will begin selling these HP products early next year and says that in the second half it will launch integrated MVS/Unix Paramount applications under HP OpenView. It will also be using its MICS product family to provide enterprise-wide data capture.

Distributed Operations Management is the most nebulous of the company's headings. Described as tools "to respond to problems across different systems" it revolves around Automate/XC, first introduced in 1988, which externally manages IBM, Digital Equipment Corp, and Tandem machines. The engine will run on Hewlett, Sun and AIX machines next year, the company says - currently it runs under OS/2. The other element is OPS/MVS, another existing tools for automating IBM mainframe activities.

For the final category: **Distributed Database Management**, the company is relying on its September acquisition of Performance Technologies Inc, and its September alliance with Bridge Technology Inc. Performance's ACE family includes tools for production of Oracle applications, while Bridge's Bridge/Fastload products are designed for moving data from IBM DB2 databases to a client-server systems. Legent acknowledges that there are still holes when it comes to supporting other databases and is looking to fill them.

As if that weren't enough, all this glue is bound together with yet more glue in the form of the XPE framework, which consists of middleware, programming interfaces and software development kits to reduce implementation and integration times. The middleware itself provides four services. For **User Presentation Services** Legent has gone to Visix Software Inc and is using its Galaxy front end; designed to make applications portable across a wide range of graphical user interfaces. Legent is using PeerLogic's Pipes technology and its own XPE framework for **Communication Services** to let the Legent products interoperate across disparate machines. The whole load is object-oriented so its no surprise to find **Object Services** promised, with support for Tivoli's technology - the idea being that user and other managed entities can be defined consistency across the systems. Finding where all of these objects are will require **Directory Services**, the final middleware component. As architectures go it all looks very impressive, but we have seen impressive architectures fall apart in the past. Still, Legent has got quite a few of the pieces already in place and is banking heavily on XPE as the strategy that will boost its profitability.

TIVOLI UNRUFFLED BY NOVELL PLANS TO DROP DM - PLUG-AND-PLAY SYSTEMS MANAGEMENT-TO-NETWORK MANAGEMENT FACILITY ON ITS WAY

Tivoli Systems Inc boss Frank Moss was last week bullish about maintaining a relationship with Novell Inc, even if the company eventually dumps its Tivoli-based DM Distributed Manager - see front page. "DM was USL's technology initiative," argues Moss, "DM is not the centre of Novell's systems management effort. It's doing its own NDMS." However, "we will have a relationship with Novell on the framework and on applications," Moss believes. The question, he says, is whether Novell brings DM up to comply with version 2.0. of the Tivoli framework - now due by the end of the year, including Corba compliance - because DM as it is, plus the applications up on it from Unisys, Pyramid and Siemens, are all based on an older "non-competitive" version of the Tivoli technology. As far as the expected demise of OSF Distributed Management Environment goes - and remember Tivoli's framework was to have been at the centre of it - Moss says there is no reason for doing DME in the new world. It is not Object Management Group-compatible. IBM Corp has halted all integration work on the DME components and the effort that it and Tivoli had been making to bring OMG compliance to DME has been stopped. A review of submissions to X/Open's systems management working group is due in November - the Tivoli 2.0 API and NetLabs Inc technologies are thought to be the only two now being offered up. Moss says Tivoli, with 150 customers for its TMF systems management framework and applications, will announce a \$2m customer for the technology in the next few weeks. Its stuff, available on Sun and HP boxes, will be up on IBM machines by year-end, with NT, and DOS and NetWare client support coming. Tivoli's next venture will be an event management system allowing users to plug any network management system, including OpenView and SunNet Manager into a Tivoli distributed management system.

CRAY DEBUTS SUPERSPARC-BASED SUPERSERVERS

Cray Research Inc has unveiled its new line of superservers, based on Sun Microsystems Inc's SuperSparc RISC microprocessors (UX 450), which it claims combines the price/performance of a high-end server with the benefits of a mainframe. Such benefits include security, the ability to hot-swap boards, and reliability. The CS6400s sport from four to 64 60MHz SuperSparcs, come with 256Mb to 16Gb of central memory, 1.3Gb per second peak memory bandwidth and more than two terabytes of online disk storage. Furthermore, when Sun releases the 64 bit UltraSparc late next year, users will not only be able to upgrade to the chip, but also use a combination of SuperSparcs and UltraSparcs, should they so desire. Although Cray has not yet decided to migrate its new massively parallel processing supercomputer from the 150MHz Alpha chip to the UltraSparc, it did say this was a possibility. The CS6400 is being marketed as an enterprise server and is aimed at the downsizing market, "especially commercial and technical data centres concerned about the high cost of upgrading and running mainframe systems". For example, customers can use Cambridge, Massachusetts-based Brixton Systems Inc's suite of about 20 network products to connect their superservers to SNA architectures. This means a super-server can act as a peer to IBM Corp mainframes or midrange systems, and users can run their Unix applications on IBM kit and vice versa. Cray expects to sell the machines to "a significant number of new name customers", predominantly in the commercial arena, wanting more power at the top end of Sun's existing product range - Sun says it intends to stay firmly in the desktop and desktop market and will not develop machines that go above the two to 20 processor range. The CS6400s also run Solaris 2.3 with added bits and bobs taken from Cray's own Unix operating system, Unicos, such as support for 64 way parallelism - the group has no intention of putting Unicos up on the superservers, however. "It wouldn't make sense", it declared. Furthermore, because the machines are binary-compatible with Sun's existing boxes, customers can run any existing Solaris application and use any Sparc-compliant interface on the desktop, such as Microsoft Corp Windows NT. Cray has also signed support agreements with various third party vendors, such as Oracle Corp for Oracle 7 and the Information Management Company Inc with its implementation of the Tuxedo transaction processing monitor - and is in discussion with others. The CS6400s will be sold via four main channels: by a direct sales team at the Cray Research Superservers division in Portland, Oregon, which co-developed the machines with Sun; by the Cray Research Inc parent to its existing customer base; through systems integrators and value-added resellers, one being SunIntegration Services; and with Sun on a case-by-case basis. The group said that Sican GmbH, a German microelectronics consortium has already ordered a 48-processor system, which it will receive by the middle of next year, and Electricite de France will buy a 16 processor system with 2Gb of memory. This will be delivered next month, and upgraded to 32 CPUs in 1994. Initial shipments of the CS6400s start next month, with volume sales beginning in the first quarter of 1994. Prices range from \$400,000 for a four processor system to \$2.5m for a 64 processor one. Cray says this is not the end of its relationship with Sun, however - the two are already working on a successor product, although this won't be around "next month or next year".

CRAY'S PARALLEL T3D FOR UK WEATHER BASE, FRENCH ATOMS

Cray Research Inc has two orders for its new T3D Alpha RISC-based massively parallel processor: one will go to the European Centre for Medium-Range Weather Forecasts in Shenley Park, Reading, and will be closely coupled with a Cray Y-MP2E parallel vector supercomputer. Both will ship in mid-1994. And across the Channel, the Commissariat a L'Energie Atomique, Division des Applications Militaires - the French Atomic Energy Commission - has ordered a 128-CPU T3D MC128-2 to be closely coupled with a Cray M92. It will be used for research in fundamental and laser physics and other work, and be installed in the fourth quarter at d'Etudes de Limeil Valenton, near Paris. No terms given.

RATIONAL TO GET LISTING FOR SHARES BY REVERSING INTO VERDIX

Rational Inc, a privately-held developer of object-oriented tools and provider of technical services, is going public by reversing into Ada tools specialist, Verdix Corp, Herndon, Virginia. Under the letter of intent, holders of the Santa Clara, California company will receive 60% of the enlarged Verdix, and dominate the board, with five current Rational directors against three current Verdix directors. Rational reported net profits of \$617,000, on sales of \$35.7m in the first nine months of 1993, but lost \$4.2m on \$47.7m in 1992.

KENDALL READIES KRS 2

Following ICL Plc's Goldrush launch last month (UX No 459), Waltham, Massachusetts-based Kendall Square Research Corp is stepping up its own efforts to bring massively parallel processing systems into the commercial world. This Tuesday the company unveils its KSR2 machine, running standard Ingres and Oracle relational databases in such a way that neither SQL queries or database applications need be re-written to take advantage of parallelism. Kendall's technology includes the provision of a single virtual memory, Gigacache, at the system level. This provides a kind of emulation of symmetrical multi-processing that makes a hardware specific distributed lock manager unnecessary. Kendall already has Oracle 7 generally available on its KSRI machines, and has an SQL Query Decomposer in operation which at one site, Neodata Inc, reduced the processing time for a huge decision support query down from two weeks to ten minutes, Kendall Square claims. The announcement, which takes place in New York with relays worldwide, should see news of the company's first European commercial customer.

HEWLETT-PACKARD UNVEILS MAINFRAME-CLASS UNIX BOXES

Hewlett-Packard Co has added new models to its Unix HP 9000 and proprietary MPE/iX-based HP 3000 server lines at the high-end, which, it claims, offer mainframe performance at between 10% and 20% of the cost. The new machines are based on the group's first 90MHz implementation of its Precision Architecture RISC chip, the PA-7100, and incorporate an enhanced system board, which sports up to two processors. Customers can simply upgrade their existing kit by swapping boards. The HP 9000 Model T500 comes in two configurations: a one to eight way symmetric multiprocessing version, which is available now; and a nine to twelve processor version, which will be released in the first quarter of 1994. Prices range from \$165,000 to \$660,000, including a two-user licence for HP UX. But Hewlett-Packard hasn't forgotten about HP 9000 Series 800 users. They get a fast/wide differential SCSI-2 interface, which provides a 20Mb per second burst synchronous transfer rate and supports 15 devices per channel; and a new family of disk arrays supporting SCSI-2. These store up to 10Gb per array and support independent mode and RAID levels 3 and 5. The HP 3000 servers, conversely, will ship in the first quarter of 1994, ranging from \$219,300 for a one processor entry-level Series 991 system to \$679,300 for an eight-way Series 995/800.

VMARK BUYS CHUNK OF COMPUTERVISION SERVICES UNIT

VMark Software Inc, Framingham, Massachusetts has concluded an agreement to purchase part of Computervision Corp's Computervision Services business unit. The unit provides software services for the Prime Information customer base and Prime Information software products. Terms were not disclosed. VMark bought the Unix-based, Pick-derived PI/Open, formerly Prime Information, software product line from Computervision last year, and the new deal adds the bit that services the base. The deal results from VMark's recent decision to establish its own worldwide customer service business and to augment its growing consulting and rehosting efforts.

CANON COMPLETES PURCHASE OF HARDWARE - BUT NOT PLANT - OF NEXT

The accountancy contortions are over and NeXT Computer Inc has finally sold its hardware side to Canon Inc. Financial details are being withheld, but the Japanese manufacturer has picked up intellectual rights to NeXT's black-box hardware, together with two-year exclusive distribution rights to sell the shrink-wrapped NeXTStep software into its Pacific Rim markets. Canon was initially eyeing NeXT's Fremont, California manufacturing facility, but now has decided against it - the machinery has been sold off and the plant is lying idle. Neither did Canon pick up any of the existing hardware inventory. That has gone to Bell Atlantic Corp's computer maintenance arm, which is servicing existing NeXT-box customers and apparently formulating a way to sell NeXT peripherals, such as printers. Canon is also helping NeXT refinance itself and will be converting some of NeXT's debt other outside investment to an agreed amount. NeXT chief financial officer Dominique Trempont said that "a fraction" would remain as long term debt, and that the company's re-financing was now close to completion.

SUN SELLS SPARC CHIPS FOR FIRST TIME, INCLUDING NEW MICROSPARC-11

Sun Microsystems Inc's Sparc Technology Business (STB) has for the first time begun selling and supporting its own Sparc microprocessors, including the newly launched microSparc-II for low-end and embedded systems - and the new 64 bit UltraSparc chip for high-end machines it plans to have out by late 1994. STB will also sell supporting application specific integrated circuits (ASICs), Sparcengine boards, Sparcstation and Sparc CPU designs, including technology early access licenses and design and testing tools via a worldwide direct sales team and distribution channels. Customers will pay between \$100,000 and \$500,000 depending on the use to which the resultant Sparc chip will be put. Although Sun said it has already offered customers these services on a case-by-case basis, it was, in the past, more usual simply to go to a Sparc manufacturer, such as Texas Instruments Inc, buy components and build a chip yourself without any help. While these manufacturers will still sell silicon, primarily Sun reckons to high volume users, Sun is setting itself up as a "complementary channel" or "one-stop-shop" for new customers. The aim behind this is to build up volume sales - at the moment, out of the 500,000 Sparc chips that ship each year, about 350,000 go into some form of computer - between 85% and 90% of which are Sun machines. The rest go to the telecommunications market and are embedded in such devices as network switches, and to embedded instrumentation control markets for use in areas such as robotics. Within two or three years, however, Sun hopes to sell 1m units per year, and says it wants to see 40% of them used in the non-Sun, non-workstation market.

MicroSparc-II

As for the Sparc microprocessors themselves, Sun launched the new MicroSparc-II last week. This is based on the Sparc version 8 32 bit architecture and, although built by Fujitsu Ltd now, will be licenced to other manufacturers for "derivative applications" in future. Sun claims it operates at 3.3 volts, sports 2.3m transistors compared with MicroSparc's 800,000 and offers between two and three times the performance of the MicroSparc - a 70MHz to 100MHz version is said to run at between 51 and 63 Specint92 and between 43 and 56 Specfp92. The new chip also has 16Kbytes of instruction cache and 8Kbytes of data cache - four times that of the MicroSparc - a local graphics bus, providing four times the graphics throughput, and an integrated floating point processor that doubles the execution rate of double precision floating point operations. The MicroSparc-II is targeted at the low-end desktop, server and portable markets and at the high-end embedded market. It is sampling in 70MHz versions at the moment, but versions ranging between 70MHz and 125MHz will go into volume production from early 1994, costing \$1,040 in quantities of 1,000. The next Sparc chip to emerge, in late 1994, will be the first member of the 64 bit bi-endian UltraSparc family - high-end multiprocessing chips. There are plans to make the midrange SuperSparc-11 processor, also due out in 1994, bi-endian too. The UltraSparc-1 will be based on the Sparc version 9 architecture and run at 250 Specint92 and 300 Specfp92. It will also be binary compatible with future members of its family - UltraSparc-11, scheduled for release in 1995, will evolve out of it, but will have a higher clockspeed at around 160MHz. UltraSparc-111, due sometime in 1996, will be a re-architected version, however, with new pipeline and process features.

• Meanwhile, Novell Inc's Netware should be put on Sparc during 1994, and Microsoft Corp's Windows NT is likely to go on MicroSparc III.

SYSTEMS INTEGRATORS TO DISTRIBUTE AT&T SOFTWARE IN EUROPE

Copenhagen, Denmark-based Systems Integrators A/S will henceforth distribute AT&T Co's Software Solutions Group software in western Europe. It will focus initially on selling nmake, which enables users to build software and documentation products; the Sablime product administration system, which controls source code, modifies request tracking, supports quality assurance, document generation, inter-project communications, security and software cost analysis; and the Source and Binary Control System, which saves, retrieves and tracks multiple versions of any type of Unix operation system file, including binary files. Systems Integrators will set up a training and support centre in Copenhagen early next year to develop local expertise, and plans to build a local presence in each of the west European countries, via either its own sales force or enlisting other distributors.

FUJITSU COMBINES ITS OFFICE COMPUTERS AND SPARCSYSTEMS INTO NEW BUSINESS SERVER FAMILY

Fujitsu Ltd has announced that it is bringing its midrange computers, both proprietary office computers and Sparc-based DS/90 7000 series of Unix servers under a common new name of Business Servers. Tools for application development for both series of machines will be brought together in a common set, including Cobol and C languages and proprietary languages. The office computer K-series has been enhanced with a 64-bit RISC-based CMOS processor providing up to three times the speed of current models, up to 100 MIPS. The K-series line-up will include two A4-sized notebooks, the K-1500NX, and a low-cost business workstation, the K-1300, with over 60% better price-performance than the previous generation. The Accell applications generator is now supported, along with NetWare-based software and software for Windows 3.1. For the DS/90 7000 series of Sparc-based servers, a 60MHz high performance server model, the DS/90 7864/62/60A, and a small footprint desktop model, the DS/90 7550, which was developed jointly with ICL Plc, was announced. A version of a best-seller package to date sold only on the K-series was announced for the DS/90 series. Super Capsel Joyful provides sales, accounting and salary management functions for medium-sized and small businesses. On the DS/90 series, a Common Open Software Environment-compliant Common Desktop Environment was announced. Over the next two years, Fujitsu expects to sell around 12,000 units of the DS/90 7000 series and 151,000 units of the K-series office processor. The projected figures indicate the still-strong standing of the proprietary office processor in the Japanese market, but international experience suggests that demand for proprietary systems can vanish almost overnight once the market does turn.

DEC AIMS TO SELL ALPHA MACHINES TO ITS SMALL CUSTOMERS FROM WAY BACK

Digital Equipment Corp in the UK is bringing in a new "low-cost" distribution channel in a effort to sell Alpha RISC-based machines into those small and medium-sized businesses that hitherto have bought just the occasional personal computer from the company. In a changing market, with hardware prices and margins slipping, the company has found that it is dealing with purchasing departments, rather than corporate data processing managers and that these departments "are applying the standard purchasing techniques use for buying bog rolls", [hygienic tissue, for US readers] in the memorable language of Benny Placido, sales manager in the volume partner organisation. Its response is to build a small sales force that makes no direct sales: instead it will be working with DEC's Value Added Resellers, to try and crack the non-DEC market. The low-end Alpha servers, running Unix and Windows NT are being touted as their main weapon. The company says it expects the new distribution channel, which currently has just eight regional sales staff, will generate \$50m in the first year and it has built a list of 6,000 companies that have bought the occasional DEC product in the past. Support comes from a revamped DECdirect operation, now dubbed Digital Merchandising. Meanwhile the existing 350-employee direct sales force continues to plug away, selling the high-end VAXes into existing major accounts.

INGRAM BUYS DUTCH DISTRIBUTOR

Microcomputer distributor, Ingram Micro Inc, has made its fourth acquisition this year in the form of Dutch distributor, Trend Group Netherlands BV, and its wholly-owned distribution company, Computer Dealer Products BV. Terms of the deal were not disclosed, but all assets and operations will be merged with Ingram Micro's Dutch affiliate, Ingram Micro BV. The Santa Ana, California-based firm has already bought its distributors in the UK, Germany and Belgium, and is intent on growing its European business still further.

NOVELL LETS USERS RUN NETWARE OVER IP NETWORKS

Novell this week moved to draw NetWare, Unix and TCP/IP environments closer together, with the launch of a new set of NetWare Loadable Modules which allow users to run NetWare services and applications over TCP/IP-based networks. NetWare/IP is designed to let users choose between IPX or IP as a preferred protocol, and is available for NetWare 3 and NetWare 4 networks. The company says that it has opted not to produce a version for NetWare 2, since these are typically small installations for which IP-compatibility is not an issue. Novell denies that this is the first move towards abandoning the IPX protocol, saying that in fact some users are moving from IP to IPX because of the huge address-base for the latter. While the company says that the vast majority of NetWare applications can still be run using NetWare/IP, it adds a note of caution by saying any applications which communicate at the protocol level may encounter problems. However, it estimates that this represents under 10% of applications, and says that it has been talking to third-party applications developers in order to allow them to modify their products. Initially, Novell is to sell the product separately from NetWare although it says that it has not ruled out bundling it in with the operating system at a later date. The company's pricing structure is designed to match that of NetWare 4.0x: prices range from \$500 for five users, up to \$14,500 for 1,000 users.

HITACHI LAUNCHES "THE INDUSTRY'S CHEAPEST UNIX WORKSTATION"

Hitachi Ltd has announced what it calls the industry's cheapest Unix workstation with a hard disk. The 3050RX/200 is positioned as one of the models in the 3050RX group and is based on the Precision Architecture RISC from Hewlett-Packard Co; it costs \$6,190. Another new model is the 3050RX/100C, a colour laptop with a 10.4" thin-film transistor colour screen which has a small footprint, but delivers high performance. Both new models have 42 MIPS performance, are based on the 50L version of the Precision Architecture RISC and incorporate a two-dimensional graphics processor. The 3050 RX group of Hitachi workstations based on the RISC consists of 14 models in total, and are the front line of Hitachi's pitch to the growing Japanese client/server market.

...AS IT FORMS NEW TEAM TO PROVIDE OOPS PRODUCTS AND SERVICES

Hitachi Ltd has set up a special team to provide object-oriented software development services and products such as object-oriented languages and development environment tools. Hitachi says that because of its experience with expert system development, tools such as its ES/Kernel series, and sales in Europe of Object IQ, the object-oriented application development tool, it is able to provide consulting services to users and will also begin development of object-oriented products. Its software development philosophy is based on a number of principles such as using optimised C++ and object-oriented Cobol; development of Rapid Prototyping tools, a distributed application development software engineering tool, and object-oriented tools. Hitachi has its own SEWB3 workstation that is designed specifically for software engineering.

EPOCH HAS BACK-UP/RESTORE FOR HETEROGENEOUS ENVIRONMENTS

Westborough, Massachusetts-based Epoch Systems Inc has announced client/server backup and restore software for systems ranging from personal computers linked via local area networks, to relational databases, Unix workstations and servers and mainframe storage subsystems. Enterprise Backup is available on November 30 for Sun Microsystems Inc SunOS servers and all major Unix clients - it costs from \$2,200 for five nodes up to \$50,000 for 500 nodes. Support for Novell Netware clients will follow on December 31, and cost from \$1,500 for five nodes to \$40,000 for 500 nodes. Enterprise Backup will also support Sybase 4.X as of December 31 - and System 10 when it ships - followed by Oracle 7.X in March 1994. Database clients range from \$2,200 for five nodes to \$50,000 for 500 nodes.

SUNSOFT'S JOSS AWAITING FINAL OMG APPROVAL

SunSoft's Joint Object Services Submission (JOSS) has now been passed to the Object Management Group's board of directors for final approval and should be ratified as a standard in the next week or so. JOSS's name will then be changed to the Common Object Services Standard (COSS). COSS covers such issues as how to create and destroy objects, how to name them and how they should relate to one another. And SunSoft claims it is the only vendor to have implemented both COSS and the OMG's Common Object Request Broker Architecture in its product, namely Distributed Objects Everywhere (DOE). As well as developing its own applications, it also attests to having about 50 customers building others from the developers releases of DOE it started shipping in July (UX No 440). These customers range from commercial and scientific organisations to universities in the US, Europe and Japan - Sun is keen to have a broad user base to encourage take-up of the product. It says it is also discussing OEM deals with 12 other unnamed vendors, and is investing heavily in DOE in terms of cash and staff resources - "if you know any engineers, we're hiring", it declared. One particular area of focus is the development of application development tools and "enabling" technology in general. Furthermore, Sun expects to pass the specification documents for mapping OMG's Interface Definition Language to C++ that it jointly developed with Iona Technology Ltd, NEC Corp and Hyperdesk Corp to OMG in November. It is also working on a standard for persistent object storage, and is considering releasing its Spring distributed object-oriented operating system as a product - at the moment Spring is simply a research project out of which many DOE products have come.

AFTER FOUR YEARS, IEEE WILL FINALLY ADOPT MOTIF

After a four year marathon effort, IEEE is finally expected to adopt Motif as a standard by the end of the year. The Posix 1295.1 committee says there were only three "no" votes in its latest ballot on the graphical user interface (GUI), and expects a recirculated document to go before IEEE for formal acceptance as soon as December. The group reminds us that the correct name of this standard is "X Window system graphical user interface - modular toolkit environment." The work is primarily based on Motif. History: the Open Software Foundation's Motif and Sun Microsystems Inc's rival Open Look X-based GUIs were both submitted to IEEE several years ago. Various working groups tried, unsuccessfully, to resolve differences between the two approaches. Eventually, IEEE agreed to support the development of separate standards for each. Under COSE, Sun finally agreed to support Motif and IEEE's Open Look standards working group folded.

HP ADDS SNA NODE MANAGER TO OPENVIEW

At Interop Paris '93 last week, Hewlett-Packard Co announced HP OpenView SNA Node Manager, a mechanism for allowing IBM Corp SNA networks to be managed from within its OpenView network and systems management environment. HP says it can now offer Novell Inc NetWare, TCP/IP and SNA management from a single OpenView-based workstation console - the combined package is dubbed OpenView Network Center. The SNA Node Manager will ship in the first quarter of next year priced at from \$12,750 on HP-UX systems - a 10-user licence for the SNA agent component on IBM MVS systems is \$15,000.

ADOBE ILLUSTRATOR UP ON SUN

Adobe Systems Inc's Adobe Illustrator 3.5 illustration and single page design application will soon run on Sun Microsystems Inc workstations and servers for the first time with the help of Highland Software Inc's Flexible License Manager utility. Flexlm enables applications software to "float" anywhere on a network instead of being node-locked to specific machines. The product will also be made available with Adobe Photoshop 2.5 image editing software on both Sun Microsystems and Silicon Graphics Inc workstations next month.

Clifton, New Jersey-based **Vertex Industries Inc** and Orlando, Florida-based **Kearney Systems Inc** are developing Oracle-based shrinkwrapped applications for manufacturing. Kearney will initially adapt six of its bar-code-based packages to Oracle, enabling the database section to run under Unix on RISC-based hardware. Vertex's Bridge Net software will manage data collection.

Computer Innovations Inc has a shrinkwrapped version of its C++ 3.0 product available specifically for UnixWare, costing \$350. The Shrewsbury, New Jersey-based firm says the kit provides both super-C functionality and object-oriented programming along with compiler technology tailored to 486/Pentium hardware. It is said to produce object code optimised for Intel hardware.

The consortium of Israel's seven universities has picked **Network Computing Devices Inc's** PC-Xware to access X Window System applications. It expects to install about a thousand copies over the next year.

Detroit, Michigan-based **Compuware Corp** has set up a new European Unix products division in Dunstable, Bedfordshire, to sell its EcoTools products to systems integrators, and promote relationships with other software and hardware vendors.

Unisys Corp, ICL Plc, CoCoNet GmbH and Proginet Corp are working together to provide high levels of recovery between different vendors' file transfer applications. They are trying to make the restart and recovery functions of their respective FTAM offerings interoperable, and will conduct interoperability testing with Open Systems Interconnection vendor associations, such as OSINET and EurOSINET. They will also work within those associations to modify existing standards so they better reflect customer needs.

Mountain View, California-based **Consilium Inc** has announced it has an IBM Corp RS/6000 version of its WorkStream Open real-time manufacturing execution systems software. The product will have a phase release starting in early 1994. Prices start at \$50,000 depending on configuration and the number of users.

Meanwhile, Toronto, Canada-based **Promis Systems Corp** is porting its Promis manufacturing execution software to Hewlett-Packard Co's HP 9000 Series 800s. Hewlett-Packard will jointly market the product, which should be available in the second quarter of 1994. No pricing was available.

InterSoft Corp has released Simple Software Management System (SSMS) Release 2.0 for Unix, which it is targeting at small development and documentation teams. The product is available now and starts at \$80.

Framingham, Massachusetts-based **VMark Software Inc** and Alameda, California-based **Uniface Corp** have begun marketing each others' products worldwide, and Uniface is also developing a device driver that will act as an interface between VMark's database management system and its own application development environment. This should be available by the end of the year.

Unison-Tymlabs Inc has released an IBM Corp RS/6000 version of its Maestro for Unix workload management software. The Sunnyvale, California-based firm also plans ports to ICL Plc's DRS/6000 and NCR Corp's System 3000 machines. Maestro already runs under Hewlett-Packard Co's HP-UX - HP uses the product internally throughout the world.

According to benchmarking tests undertaken by **Oracle Corp** and **Digital Equipment Corp**, Oracle 7, under OSF/1, runs at 94.43 tps-A client/server, or \$7,466/tps-A, on an Alpha 2000 model 300; 172.16 tps-A client/server, or \$6,390/tps-A, on an Alpha 3000 model 600S; and 186.02 tps-A client/server, or \$6,810/tps-A, on an Alpha 3000 model 800S. Oracle 7, under OpenVMS, on an Alpha 7000 model 660 runs at 1,079.07 tps-A client/server, or \$5,905/tps-A; and at 110.09 tps-A client/server at \$6,958/tps-A on an Alpha 2000 model 300.

ACT Group Plc's ACT Kindle unit has ported its Bankmaster banking package and Branchpower retail banking branch automation system to the entire range of Sun Microsystems Inc Sparc-based workstations and servers. The two will also undertake joint marketing.

Arkansas Systems Inc is porting its AS/400-based Flexi-Remittance document application to **NCR Corp's** System 3000 series. +1 501 227 8471

Geoworks Inc, Berkeley, California has been awarded a patent for its unique process of designing user interfaces for applications: the patented technology is part of Geowork's GEOS object-oriented graphical operating system for consumer computing devices including mobile devices, office products, smart phones and interactive televisions.

Tools Pacific 93 will take place in Melbourne, Australia from November 29 to December 2.

In support of the COSE Common Desktop Environment (CDE), **National Information Systems Inc**, San Jose, California, has opened an Open Look to Motif Migration Center, a joint venture with **Kovi Design Automation**. Pricing is based on a fixed-fee starting at \$1,000. The center translates C or C++ applications written in XView, Devguide or OLIT. Users can send up to five source code files as a test case. The center's staff translates them using the company's Accent STP.

The Virtual Reality Expo '93 will be held in New York City, a highly suitable venue for such a thing, on November 29 to December 2 at the Hilton Hotel.

KL Group Inc has released version 2.0 of XRT/3d three-dimensional graph widget toolkit for X Window system developers. New features include three-dimensional bar charts and histograms, interactive rotation and new data formats that can handle irregular gridded data sets. XRT/3d costs \$2,500.

Minumus Software Inc, Parker, Colorado, is offering its Snap software for restoring lost or corrupted files and performing other file operations at \$150.

ProActive Software Inc has changed its name to The Vantive Corporation. The Mountain View, California-based firm has also rebadged its Customer Information Resource system to call it the Vantive System, and released version 2.0 of the product - which is available now. In addition, it has agreed to market and resell Oracle7 and Inference Corp's CBR Express family of Case tools.

Six Sigma CASE Inc has released a new upgrade of its database design tool, the Canonizer, for Sun Microsystems Inc SparcStations, running Solaris 2.1 and 1.x for OpenLook and Motif environments. Version 2.0 sports a new graphical user interface, is operated via a mouse and provides context-sensitive on-line help. It costs \$2,200 and is available now.

Raxco Inc has released version 3.0 of its security and assessment management tool, Security Toolkit/Unix, which ranges from \$250 to \$9,790. The Rockville, Maryland-based firm also has new Unix systems management and storage support products in the pipeline.

Ottawa, Ontario-based **Corel Corp** is now shipping CorelDraw 3, and says it will integrate the recently-acquired Ventura Publisher and Ventura Database Publisher with its own software for "complete desktop publishing solutions."

Bluebird Systems Inc has released version 2.2 of its imageAble document imaging software for IBM Corp's RS/6000 costing \$4,000.

3Com Corp, Santa Clara, California, has announced Transcend - which it says can manage logically related network devices as a single entity. 3Com SmartAgent software monitors and controls devices, tracking network performance, automatically correcting and reporting back to the management console. Transcend supports SunNet, OpenView, NetView/6000, Windows and Novell NMS.

Interactive Development Environments Inc's C development environment can now be used with Hewlett-Packard Co SoftBench CASE system on HP and Sun hardware.

Bedford, Massachusetts-based **Progress Software Corp** and EC2A, London-based **Dataflex Ltd** have ported their fourth generation language application development environments to **Siemens-Nixdorf Informationssysteme AG's** RISC-based RM Unix servers.

New York-based **Computer Associates International Inc** has added **Univel Inc** UnixWare support to CA-Unicenter, the firm's systems management product.

Pittsburgh, Pennsylvania-based **Tartan Inc** has released an enhanced version of its Ada cross-compilation system. New features include: Checksum, a tool that allows users to verify the correctness of target memory; AdaList, an interspersed Ada source and assembly listing kit; and AdaScope, a supped up source-level symbolic debugger. The tools are available now on Sun Microsystems Inc Sparcstations, DEC Vaxes and IBM RS/6000s.

ORACLE, GEMPLUS DO A SMART CARD QUERY LANGUAGE SQL

Oracle France SA has announced a pact with Smart Card manufacturer Gemplus SA, Genenos, saying that it will market a relational version of the Smart Card technology used in public telephone and banking cards and developed by Gemplus. The new technology, called Card Query Language, replaces the flat file data format common to Smart Cards with a relational format, enabling information stored on the card's microprocessor to be exchanged and read more easily by a variety of systems. Card Query Language is a derivative of Structured Query Language, SQL. "This technology represents the same revolution that we had in the world of database management systems at the end of the 1970s," reckons Jean Margery, director of marketing for Oracle France. Company executives said they expect the improvement to spur the development of more complex applications of the Smart Card technology, including portable health dossiers, multi-purpose student cards and electronic wallets. Previous generations of Smart Cards posed problems of how to share and secure the data and how to integrate the card with other computer systems, said Pierre Peradinas, business and development advanced product manager for Gemplus. "It was necessary to propose a new technology to exploit the card for new applications," Peradinas said. "This technology relies on specific, defined view of the data. The doctor, for example, would see all of the data - dates of treatment, the problem and the medication - while the pharmacist would see only the medication prescribed." Gemplus gave a demonstration of stocking SQL data from an Oracle Unix server onto the 1Kb CQL card, using Oracle's Forms 4.0, SQLNet and a PCMCIA card reader attached to the personal computer's serial port. Margery said the company already has a budget for a project to use the technology to develop student cards. He added that he soon expects the marketing agreement to be extended worldwide. Gemplus, founded in 1988, has grown to sales of an estimated \$125m this year, with activity in 10 countries, including the US. It has recorded an average profit margin during that period of approximately 10%. Total market for Smart Cards is tipped to reach 1,250m in 1995 from 260m in 1992. Telecommunications is the biggest market, followed by banking, cable television and mobile telephony.

SHARP TO USE ORACLE GLUE IN ITS HANDHELD COMPUTERS

Oracle Corp, Redwood Shores, California is joining forces with Sharp Electronics Corp to bridge the gap between corporate data and mass-market handheld computers. Oracle will contribute its Oracle Glue application programming interface for connecting desktop applications to databases and Sharp its Wizard family of electronic organisers and Expert Pad personal digital assistants. The two agreed joint development and marketing and say they hope to create products that enable users of databases and other corporate back-end services to access data back at base wherever they may be, without being chained to their desks.

INSOFT DEBUTS SHARED APPLICATION CONFERENCING SOFTWARE

Insoft Inc has released the Shared Application Resource Environment (SHARE), which enables users to share standard applications in real-time during a video conferencing session. The Mechanicsburg, Pennsylvania-based firm claims that users can now edit or modify remote documents, spreadsheets or drawings in real-time as if they were local programs - and everyone involved can see the results in real-time. SHARE must be used with Insoft's Communique! conferencing software. The product will be available on Sun Microsystems Inc's SunOS 4.1x in early December, and on Hewlett-Packard Co's Apollo Series 700, IBM Corp's RS/6000 and Silicon Graphics Inc Indigo and Indy workstations in the first quarter of 1994. It costs \$600 per seat. Communique currently runs on Sun and Hewlett-Packard hardware, and will ship on the RS/6000 from November and on Silicon Graphics by January. It costs \$2,500 per seat based on a five-node floating licence.

GEC MOVES PHONE SYSTEM TO 88000

GEC Plessey Telecommunications Ltd has realised the way the wind is blowing and is repositioning its iSDX PABX as "a platform for major application development". The new generation of machines, are based on Motorola Inc's 88000 RISC processors. Given that the Motorola RISC family appears to have a somewhat attenuated life as the Schaumburg, Illinois company moves all its development effort over to PowerPC, the choice of chip looks somewhat odd. However, it is clearly the one to which GEC Plessey is wedded - three years ago, we published details of its plans for the System X public telephone exchange, which involved replacing the current proprietary processor (derived from the old GEC Mark II BL) with the 88000, and adopting the Chorus Systemes SA Unix microkernel as the operating environment. GEC declined to give an update on that project on grounds of commercial confidentiality, but now that the 88000 has popped up in the iSDX, the implication is that the System X project is proceeding as planned.

DASSAULT SYSTEMES HAS NEW RS/6000 VERSION OF CATIA

Paris, France-based Dassault Aviation's Dassault Systemes has released CATIA Solutions version 4 for IBM Corp's RS/6000s - including its new PowerPC models (UX No 455). The computer-aided design, manufacturing and engineering software enables users to perform various functions concurrently, such as designing three dimensional engineering drawings, analysing a product and visualising it as a rendered image. All version 3 data is upgradeable to and compatible with version 4. The product costs between \$6,000 and \$37,500 and will be marketed and supported worldwide by IBM. Meanwhile, according to IBM's Russian marketing representative, Alexie Gurevich, CATIA has been installed in more than 100 Russian enterprises - IBM started distributing the system there in 1992. The main sites are AvtoVAZ, Togliatti, and Gorkovskij Automobile Plant, Nizhnij Novgorod, the aviation enterprise Saratovskij Aviatsionnyj Zavod, in Saratov; and IBM business partner SEPT has also bought two CATIA systems. Gurevich says a contract with another company for 14 CATIA systems was signed last month and is due to be installed in November. It should be operational by the year-end.

SONY PLOTS TO JOIN GAMES MARKET

Nintendo Co Ltd and Sega Enterprises Ltd have made so much money out of their duopoly of the current generation of video games technology that they were never going to have the field to themselves for very much longer, and among the heavyweights preparing to muscle in on the party is Sony Corp, which says it will next month incorporate a new company, Sony Computer Entertainment Inc. It is being established in partnership with Sony Music Entertainment (Japan) Inc, and plans to unveil a next-generation games machine in Japan at the end of next year. The machine promises three-dimensional computer graphics, and will use several high-end microprocessors from the workstation world - Sony currently uses MIPS Technologies Inc chips in its workstations, and presumably it is to those that it is looking. It has set a first year sales target of 1m of the machines, which will use CD-ROM as the software medium. Sony claims its products will have higher performance than Sega machines, and the new venture will develop and market both hardware and software. It will also license the system to games software firms.

CRAY TO SELL TO SOUTH AFRICA

Cray Research Inc said the lifting of US and United Nations sanctions meant it could offer its technology to South African companies, so they can compete internationally in research and development, and has appointed South African technology company Cortech Data Corp Pty Ltd as sole representative there. Cortech will initially introduce two Unix-compatible Cray Y-MP EL super computer models. A Cray Research system was installed in South Africa's Weather Bureau in the first quarter of 1993, before calls for the lifting of sanctions, for which Cray received a special export licence from the US government.

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Acer Group Inc's Altos Computers unit has released its Acer Altos 7000 family, which comes in four configurations, and runs Santa Cruz Operation Inc Unix, Microsoft Corp Windows NT, Novell Inc NetWare and Banyan Systems Inc Vines. The machines sport from one Intel Corp 486 CPU to two Pentiums, come with 4Mb of RAM, 540Mb of hard disk, 256Kb of cache and start at £3,370.

Westborough, Massachusetts-based **Epoch Systems Inc** has released client-server backup software for Oracle, Sybase, Informix and Ingres on personal computers and standalone or networked Unix workstations and file servers. Enterprise Backup is available from November 30 on SunOS servers and Unix clients, and costs from \$2,200 for five nodes to \$50,000 for 500 nodes. Netware client support will come on December 31, as will support for Sybase 4.x, priced at \$1,500 for five nodes and \$40,000 for 500 nodes. Oracle 7.x will follow in March 1994 at \$2,200 for five nodes and \$50,000 for 500 nodes.

Readers have asked for **Opus Systems Inc's** phone number (UX No 459): + 1-408-562-9340

Motorola Inc's RISC Microprocessor division is shipping PowerPC 601 and 603 software cross-development toolkits for Sun 4 hardware. The toolkits comprise C and Fortran compilers, simulators and a source level debugger, and are already available for IBM Corp RS/6000s. They cost \$5,000, or \$1,500 for the compilers and \$3,500 for the simulators.

SAP AG is porting its R/3 Unix business applications to **Sun Microsystems Inc** hardware. Sun has already established a Bay Area Competency Centre at SAP's development centre in Foster City, California, a European Competency Centre at SAP's headquarters in Walldorf, Germany, and will open another one in Japan in the first quarter of 1994. These will undertake such tasks as optimising R/3 for Sun kit, benchmarking and pre-sales support. The two companies will also co-operate on future product developments. SAP's newly released R/3 version 2.1 will be available under Solaris 2 in the first quarter of 1994.

Sybase Inc, Emeryville, California says it is now shipping core components of the company's System 10 enterprise client-server family of products: Sybase's SQL Server 10 relational database management system and Backup Server 10, one of the firm's control server products.

Intel Corp is to security-mark its microprocessors at manufacture to make it easier to trace stolen parts: it will add serial numbers.

AT&T Co has followed **IBM Corp**, **Eastman Kodak Co** and **Philips Electronics NV** in buying an undisclosed minority stake on undisclosed terms in the Burlington, Massachusetts object database developer **Object Design Inc**, IBM paid \$27m for its equity stake.

Force Computers Inc is offering a Super-Sparc-based VME board for the embedded systems market: the two-board Sparc CPU-10 is offered at speeds up to 60MHz and comes with up to 128Mb RAM, two Sbus slots, a range of I/O interfaces, 1Mb Flash Eeprom and 512Kb Flash memory for Sun OpenBoot. +44 344 777870.

Backed by funding from oil companies and the Department of Trade and Industry, UK object house **Prism Technologies Inc**, Gateshead, Tyne & Wear, is to develop compliance with emerging **Petrotechnical Open Software Corp** software integration standards in its recently unveiled OpenBase object development and integration environment. **Logica Plc** is to market OpenBase in the UK. Prism +44 91 491 3982, POSC +44 81 759 2131. Logica +44 224 643575.

Informix Software Inc says version 5.0 of its Informix-OnLine/Secure database has won B1 and C2 security from the US National Computer Security Center: the company has submitted its database to Admiral Management Services Ltd for evaluation under the equivalent European scheme, the IT Security Evaluation Criteria, levels E3/F-B1 and E3/F-C2.

Some say **Hewlett-Packard Co** and **IBM Corp** are so much in lockstep these days even **Sun Microsystems Inc** can't do anything without them.

Around 40% of the 1,200 delegates at last week's Common Desktop Environment developers' conference in San Jose, were reckoned to be representatives from COSE firms. Part of the intent was to demonstrate to customers how CDE would look and feel the same on any hardware platform, and so it proved: not surprisingly however, as all the COSEs were running the same source code.

Meanwhile, although **Novell Inc** representatives questioned about the company's CDE plans were assured that all relevant licensing issues had been resolved, we know the firm has yet to sign the joint development agreement allowing COSE firms to cross license each others' component technology.

We understand that a group within **IBM Corp** is responsible for putting Windows NT up on PowerPC (UX No 459): indeed the group's remit is to put whatever it likes on to the IBM/Motorola RISC architecture to make it successful. A SunSoft Inc Solaris port will likely be followed by SCO Unix.

Samsung Electronic Company is South Korea is going to build **Apple Computer Inc's** PowerPC machines, according to a report in *Computer Reseller News*. The facility is reportedly already doing board production.

Hewlett-Packard Co's Bernard Guidon, now general manager, Europe with the company's Computer Systems Marketing, thinks **NewOrg** won't come off. He reckons the **Open Software Foundation** will become exactly what it's been trying to become for some time - a separate profit-making company that adds value to Unix.

Fujitsu Ltd is set to distribute software in North America. It's the first time a major Japanese hardware maker has offered unbundled software overseas. It's got five products in mind including a Fortran 90 compiler for Solaris 2.x, and plans to sell the stuff initially through its overseas offices, then perhaps later through Amdahl and ICL as well as OEM to Sun Microsystems. It is considering IBM and HP Unix products as well.

NeXT Computer Inc is going to kick off an East Coast Nextstep developers conference January 24-26 at the Sheraton Washington in DC, the first time it's ever hit this side of the world.

Last month, **DEC** sponsored the first conference in Vietnam on advanced computing systems for top scientists and officials in Hanoi.

Sybase Inc has set up a Mexican subsidiary in Mexico City, its first Latin American operation, formed through the acquisition of **NYX SA de CV**, its former distributor. It has 50 customers. Sybase has seven South American distributors.

Rational Inc is going to resell **ATA Inc's** documentation product, DocExpress, a tool that generates documents compliant with ISO, the Defense Department and other standards. It will be offered as a layered product with Rational Apex.

Computer Associates Plc, Slough, Berks, has signed up its first six value-added-resellers for its CA-Unicenter systems management software. They are **Simmons Magee**, **BISS**, **EPS**, **Data Logic**, **Hoskyns and Systems Resources**. CA says it has been shipping the Hewlett-Packard version of CA-Unicenter since January, and has 13 UK customers in contracts worth £1.3 million.

Rumour has **Motorola Inc** developing another version of PowerPC specifically for **Apple Computer Inc**.

Not satisfied with abbreviation **NewOrg**, its intimates are now reportedly referring to the concept as **N.O.** or simply **No**.

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ADDAMAX LAWYERS RESIST OSF RE-STRUCTURE

Addamax Corporation and its law firm Kelley Drye & Warren are moving to impede any restructuring of assets by the Open Software Foundation before Addamax's potentially \$100m antitrust suit against OSF is resolved. Addamax's action was touched off by reports that the powers-that-be may attempt to slide OSF assets into NewOrg, the new consortium they are currently negotiating to set up (UX No 460, 456, 452), and leave behind as so much baggage whatever liabilities they can. In a letter sent on October 28 to 11 chief executives, including the heads of Digital Equipment Corporation and Hewlett-Packard, who are also named in the suit, as well as Fujitsu Ltd, Hitachi Ltd, ICL plc, Novell Inc, NCR Corporation, Santa Cruz Operation Inc, SunSoft, Unisys Corporation and IBM, the company asserts its rights as a creditor to be informed of any plans or transactions being considered that would affect OSF's assets or operations. It also demands that it be apprised of any such plans or actions on an on-going basis. The letter advises the chief executive officers that "any restructuring or transaction is fraudulent to the extent that it in any manner frustrates the capacity of Addamax, or any other creditor of OSF, to realize on its claims against OSF, and such restructurings or transactions are subject to attack as fraudulent transfers. In the event of such action, liability on behalf of OSF, as well as its officers and directors, will be pursued fully to the extent of applicable law." Addamax/OSF suit - page 2.

HP "TAKING CONTROL OVER DCE SECURITY SPEC"...

As cracks begin showing up in the Open Software Foundation's monumental edifice, Hewlett-Packard, one of the Consortium's original founders, has been seen trying to shore up its own position, according to reports coming out of the consortium's Super SIGS (special interest group) week last week when it had everyone in town. HP's latest manoeuvrings come amid unconfirmed rumours of a recent falling out between it and IBM inside the tightly bound COSE group reportedly over Tivoli Systems Inc and Tivoli's systems management framework. According to Tivoli, IBM has endorsed the Tivoli scheme. The first indication that something was afoot at OSF reportedly came at the meeting of the Security SIG last Tuesday. Sources said it appears HP has kidnapped the functional DCE security specification and its implementation and will hold them both incommunicado while it develops the code. Contrary to normal practice, which gives the SIG and early access people at least a look at the spec and a glimpse of the first release, a nondisclosure cordon has been thrown around HP's work apparently with the connivance of OSF itself. (Ostensibly the reason for this measure is enhanced security which will however be jeopardised once OSF members get the results.) Also unlike typical procedures, where the spec is done first and then the prototyping, this time they will be done simultaneously. Sources say the impact of this move will be to give HP a leg up on the technology and a six- to 12-month commercial lead in the marketplace.

... PUSHES DOMF OBJECT STRATEGY FOR DME

Meanwhile, it looks as if Hewlett-Packard is also trying to shanghai whatever object-orientation strategy may be left at the Open software Foundation now that DME, its Distributed Management Environment, has gone by the boards other than as a stripped down version that's supposed to appear in DCE, the Distributed Computing Environment (UX No 460). It is believed HP, which early in the week met with Object Management Group personnel, is now trying to get its Distributed Object Management Framework or DOMF accepted as DCE's sole Object Request Broker. OSF last Thursday told SIG people that it would not deliver an object-oriented framework. Instead it will pick a reference object request broker and deliver object services for applications on top of that. Sources said it was clear there would be no formal selection or evaluation process used in picking the ORB, simply an OSF management decision due around Christmas time. They said it was also clear OSF was already leaning towards HP's ORB because of the many singular references made to it.

SUN READIES NOMAD GYPSY

Separate and distinct from whatever top-secret stuff they're working on over at that impenetrable subsidiary of theirs, First Person, Sun Microsystems has been dabbling in nomadic devices and has come up with something it thinks may class as a new species of machine. The widget is code named aptly enough Gypsy and is due out probably in the February time frame. Sun thinks of it as a nomadic workstation or remote (networkable) computing device, a 13-pound gadget, based on Solaris, composed on three pieces that fit in a briefcase and need a tabletop handy so they can be snapped together. Clearly a luggable, it's not meant to replace a laptop like Tadpole Technology's SpareBook. It is however said to be highly ergonomic, battery-operated and fitted with a flat-screen display. The company, which sees it being used by insurance and construction firms, has done some customer focus groups and reportedly Gypsy arouses considerable techno-lust. It should come with a price tag in the low-to-mid teens.

DEC PREPARES 12-WAY SMP

Digital Equipment Corp, which announced its first six-way Alpha symmetrical multiprocessor last month (UX No 458), promises to have twelve-way DEC 7000 systems up and running by next autumn, using the existing cabinet. The systems will support up to 14Gb memory, and 10Tb disk. Current six-way SMP machines only run VMS, but according to Pat Geary, UK Unix marketing manager, they have recently been benchmarked at up to 1,079 transactions per second running the Oracle database, which he claims is the lowest ever cost per transaction rating. Oracle Parallel Server for Alpha OSF/1 will be out in the Spring, said Geary, DEC is also pushing ahead with its eight-way cluster technology using Encore Computer Corp's Reflective Memory technology.

DG GOES FOR OPENVIEW

Data General Corp is the latest systems vendor to adopt Hewlett-Packard Co's OpenView network management technology, the company announced as part of a raft of new strategic software relationships revealed last week - details, page 4. And Hewlett-Packard, which held its first OpenView Users Forum in Dallas last week, has announced support for IBM SNA networks within OpenView for the first time.

COURT RULES ON ADDAMAX MOTION OVER OSF LEGAL COUNCIL

The Federal Court in Massachusetts last week finally ruled on a motion lodged by Addamax some months ago to disqualify Hale and Dorr as OSF's legal counsel because of an alleged attempt by one of its partners, Charles Gray, to suborn a witness in its antitrust suit against the consortium. The court stopped short of disqualifying Hale and Dorr but did formally turn the issue over to the Board of Bar Overseers in Boston. Gray could be disbarred or suspended from the practice of law for a time. Addamax filed its motion after it learned that Gray had attempted to induce David Andrus, the chairman of Netwise Inc and a key Addamax witness, to change his sworn testimony in return for OSF and Hale and Dorr dropping a subpoena commanding the production of documents that Netwise's own counsel complained was "overbroad, unduly burdensome and designed to harass" because the documents were "irrelevant, privileged and constituted in part confidential business information." Andrus, whose firm had participated in the DCE Request For Technology, had previously testified that during the RFT process "Netwise heard from both OSF members and independent sources that the DCE RFT was 'wired' in favor of the sponsor's technology." He also testified that the DCE Technology Criteria document, defining the specifications of the technology to be acquired, was drafted by a committee dominated by OSF sponsors and was "skewed in favor of the sponsors' DCE technology offering." Andrus also alleged in his affidavit that "subsequently OSF announced a pricing model for DCE technology in which it carried out its threat to price this technology far below its market value. As a result, Netwise and other ISVs have been substantially foreclosed from the market for DCE technology." In a letter dated October 21, 1992 Grey wrote "OSF would prefer to avoid seeking extensive discovery from Netwise to defend the suit brought by Addamax. One way for Netwise to obviate the need to produce documents relating to its products would be to persuade Addamax to drop its allegations concerning Netwise and the Distributed Computing Environment ('DCE') selection process. Alternatively, OSF might agree to withdraw its request for these documents if Netwise were willing to sign an affidavit recanting the testimony of Mr Andrus in his affidavit. For example, in lieu of the documents requested, OSF would accept an affidavit from Mr Andrus stating in substance that he has no evidence of bias or unfairness in OSF's selection process and that OSF in fact did not destroy Netwise's market for its RPC technology."

"Close to the line"

Andrus would not change his testimony and also resisted the subpoena. OSF moved to compel and a hearing on its motion was held in the US District Court in Denver before Judge Edward Nottingham who said he found Grey's conduct "shocking" and "on the cusp of suborning perjury" and admonished Grey for writing the letter describing it as "close to the line" but granted his motion to compel. Grey claimed that Hale and Dorr had "substantial evidence" that Andrus' first affidavit was false and suggested that Addamax, Netwise and Sun Microsystems were basically in cahoots to "put OSF out of business." Federal Judge Robert Collings last week called Grey's conduct "troubling and, at a minimum, gives the appearance of heavy-handedness. At its worst, the conduct evidences a specific intent to pressure a witness to change testimony given under oath by offering to withdraw a subpoena duces tecum which the witness at least viewed as extremely burdensome and costly. Grey may well have tread perilously close to or even crossed the line of propriety. However he did not disqualify Hale and Dorr because OSF relied on it so heavily, claiming its defense "would be crippled perhaps irreparably if it were to lose them as counsel, particularly at this stage in the case." He also drew back from prejudicing OSF's case further. Collings noted at the beginning of his decision that the disqualification motion alone had created three-inches of paperwork for his court, indicative, he said, not only of the gravity of the issue but "the intensity with which this entire case has been litigated."

OSF SHIPS DME SERVICES, PRINT MANAGEMENT "DUMPED"

The Open Software Foundation says that version 1.0 of its Distributed Management Environment services are now generally available. Prices, announced a couple of months ago (UX No 451), are set at \$250,000 for source code with full distribution rights or \$25,000 with limited distribution rights. Volume discounts apply to binary versions. However, in other news, it is reported that the print management component of DME's distributed services, which was originally to have been supplied by Sterling Software Corp. has been dropped. OSF had already delayed the print management service until the second quarter of next year (UX No 451); apparently the delay in getting code from Sterling and the availability of other print managers on the market prompted OSF's decision. Whether it'll adopt another remains to be seen.

...PRESS SPUN A LINE - NO C++ COMPILERS DUE

Meanwhile, despite the fact that some of its own staff are convinced Open Software Foundation will have to provide C++ application programming interfaces, a C++ compiler and other object-oriented stuff under a future Distributed Computing Environment version 2.1, OSF tells us that in fact it has no serious plans at all for 1.2 (UX No 458). OSF says reports of a C++ compiler for 1.2 were "regrettably" leaked to the press by a former employee who knew he was leaving OSF at the time.

...AND OSF BOASTS OF MEMBERSHIP BOOST

In what looks like a rearguard action against the threat to its existence, (see front page), the Open Software Foundation last week issued a press release saying that its membership now exceeds 400 - the largest membership roster since its formation back in May 1988. New members include Knowledgeware, Wells Fargo Bank, Informix Software, 3M Company, Deutsche Bundespost Telekom, and the National Computer Board of Singapore. The graduated membership fee scale announced in August (UX No 451) is credited with the recent boost. Over 15% of OSF members have been involved since the start, OSF says, renewing membership every year.

KENDALL SQUARE WARNS OF LOSS

In a rather unfortunate prelude to the launch of the KSR2 last week shares in Kendall Square Research Corp, Waltham, Massachusetts plunged \$8.50 to \$15.75 on Friday after the company warned that it expects turnover for the third fiscal quarter to September 25 to be substantially below analysts' expectations, and that it expects to report a loss for the quarter. It said that shipments for the quarter were in line with expectations, but the amount of revenue that can be included in the third quarter results is subject to further review. The KSR2 doubles the clock speed and halves the size of its processor boards compared to its predecessor, but has an identical architecture. The new generation of chip is implemented in 0.8 micron CMOS, up from the previous 1.2 micron fabrication. This, combined with the use of tape automated bonding assembly has enable the company to double its component density. Pricing has yet to be set, but is likely to be between 1.5 times and 1.8 times the cost of a KSR1 with the same number of processors. The new machines, based on a new chassis, are available immediately to high-end technical users, but the commercial sector will have to wait six months. KSR1 and KSR2 machines can be joined together to work as single-image combined system (UX No 460). Kendall's silicon is fabricated by Sharp Corp and Hewlett-Packard Co "on the same production lines used for their pocket calculators" says Ray Fortune, Kendall's Square's executive vice-president and chief operating officer.

CYPRESS TO BUY PERFORMANCE AND PHASE OUT ITS MIPS RISC BUSINESS

Having got out of RISC microprocessor business once when it sold its Sparc operation to Fujitsu Ltd, Cypress Semiconductor Corp looks like exiting it all over again. On Friday, the company announced that it had a letter of intent to acquire privately-held Performance Semiconductor Corp, Sunnyvale, California, which makes static RAMs and high performance logic circuits, and is also a Mips Technologies Inc RISC licensee. Cypress expects to phase out the R-series RISC business. Performance is thought to be unprofitable on annual sales of \$45m. Terms of the agreement were not disclosed.

MAINSOFT INTRODUCES MAINWIN WINDOWS-TO-UNIX TOOL

MainSoft Corporation's Windows-to-Unix tool, its MainWin Software Developers Kit, becomes commercially available this month. It lets developers create multiple versions of native-mode applications to reach Sun, IBM, HP and Silicon Graphics workstations from the same code base that supports Windows 3.1 and maintain the look and feel of the original C or C++-based Windows package. (Users may switch to Motif on the fly.) With the underlying code unaltered, all versions can be upgraded simultaneously. MainWin claims its applications have 10 to 20 times higher performance than Wabi-based applications. In comparisons it ran against Wabi using Chess from Gnu Wabi on a Sparc Classic took it close to eight minutes to make the first move, Windows on a 486/66 took 24 seconds and MainWin on a Sparc Classic took 26 seconds. MainWin on an IBM 230 took 20 seconds, on an HP 715/33 it took 17 seconds and on a Sparc 10 it took 11 seconds. On a WinTach benchmark - including WP, CAD/Draw, spreadsheet and Paint, Wabi on a Classic rated a piddling 7.7 overall, Windows on a 486/66 a 13.5, MainWin on a Classic 14.0, on an IBM 230 a 24.5, on an HP 715/33 a 34.6 and on a Sparc 10 a 53.5. The MainWin SDK is \$5,000 for the first copy, \$2,000 for additional copies. The end-user environment, MainWin for Workstations, is priced at \$195.

NEW OASIS FOR PENTIUM WILL KEEP IT COOL FROM OVER HEATING

Stand by for liquid-cooled laptops - San Francisco-based Aavid Engineering Inc, which specialises in fluid cooling systems has just introduced a device that it says will enable manufacturers to put Pentium or Alpha chips in laptops without toasting their users' trousers. The system, code-named Oasis, uses patented technologies that vapourises fluid and condenses it in a flexible heat exchanger that fits either inside or outside the computer. The company says that the beast only needs one quarter inch on top of the microprocessor, and therefore can be sandwiched between boards if necessary. Apart from the novelty of having high-powered laptops, it should enable manufacturers to retrofit 80486-based machines with Pentium microprocessors reliably. Aavid describes the "flexible subsystem" as robust, light and filled with an inert, non-toxic, non-flammable and non-ozone-depleting liquid - oh, and the thing is described as leak-proof...

AMDAHL CUTS 1,800 MORE JOBS, AND SEEKS MORE VENTURES

Amdahl Corp accompanied news of a whopping \$276m third quarter loss after restructuring charges (figures, page seven) with news that it is cutting another 1,800 jobs as it battles to steady the ship in face of the unprecedented upheavals in the mainframe market. It says it will seek more alliances like the ones with Sun Microsystems Inc on Unix servers and Electronic Data Systems Corp on its Huron applications development environment, and plans to vacate another 500,000 or more square feet of manufacturing and office space, which sounds like bad news for the plant just outside Dublin. It has created independent profit centres that will individually manage five lines of business - IBM-compatible mainframe computers, data storage subsystems, Unix servers and software for the open systems market, applications development and production software, and educational and consulting services. It is also working strenuously to cut inventories, which have declined since the beginning of the year and helped to generate positive cash flow of nearly \$120m so far this year; it is also passing the 1.25 cent a share quarterly dividend this time around. It warns that uncertain demand and volatile pricing make it difficult to forecast future operating results.

SYBASE AND ORACLE IN THEFT ROW

Sybase Inc is put out that Oracle Corp saw fit to issue a press release last week confirming reports that a Sybase employee was caught stealing Oracle software development code and marketing plans on September 24. Wilson Brumiller, who worked at Oracle until June and then got a job at Sybase subsidiary Gain Technology, was arrested trying to smuggle a disk drive containing a full implementation of Oracle database product for the Sparc platform out of Oracle offices. The police searched his apartment and found PCs, disk drives, memory boards and software belong to Oracle that its lawyers claim were taken after Brumiller went to work at Sybase. The gear contained Oracle design documents, marketing plans, competitive analyses and Toolkit source code. Oracle believes Sybase is developing a similar product. Oracle has obtained a preliminary injunction precluding Brumiller from selling or using Oracle confidential information in the future. It has also served Sybase and Gain with subpoenas seeking information related to their use of the Oracle code and other confidential information taken by Brumiller. Sybase and Gain have denied any involvement.

BORLAND OFFERS INTERBASE AND PARADOX 4.5 TOOLS FOR WINDOWS

Borland International Inc has bundled its InterBase 3.3 server database and development tools with Paradox 4.5 Development Edition for Windows to create a shrink-wrapped package. The Scotts Valley, California-based firm claims its Borland Client/Server pack provides users with the necessary development tools, middleware and server technology for building and deploying departmental applications. The pack comes with a pre-packaged version of InterBase running under Santa Cruz Operation Inc's Open Server 3.0 for standalone departmental servers, and Borland will jointly market the product with SCO. It will be sold via both Borland's distributors and SCO's value-added resellers from November, costing \$1,000 for two users. The individual products will also start shipping in November - Paradox 4.5 Development Edition costs \$700; InterBase 3.3 for SCO Unix costs \$800 for two users and \$2,500 for 10 users; the InterBase development tools cost \$500. All given prices are promotional and will change after March 31, 1994.

VIDEO SERVERS: NCUBE AND ORACLE CHALLENGE IBM

IBM Corp is bidding to supply Bell Atlantic Corp with thousands of video servers for a video-on-demand service, but is not submitting to the rather ludicrous idea of using a mainframe as a giant video jukebox - it is instead using an RS/6000, the Wall Street Journal reported. But even that offering looks dated beside rival, Oracle Corp. Oracle has teamed up with nCube Corp to offer massively parallel systems and the latter claims the system will cost \$500 per video stream - one-tenth the cost of IBM's proposal, it attests - and will be down to \$100 per stream in two years. The first stage of the project is to supply equipment to serve a projected 20,000 homes in the Arlington, Virginia area, moving on to 110,000 more homes in five other cities. Unnamed others are also said to be bidding.

WYSE SHIPS SCO'S SMP UNIX EXTENSION

Wyse Technology said last week that it's shipping SCO's MPX 3.0 multiprocessor extension bundled with its 7000i platform, scalable to five CPUs. Wyse has been shipping SCO Unix on its 6000i and 7000i servers since August. In six weeks it captured 10% of its server sales, Wyse said. In October, Wyse expanded its server line with the entry-level 3000i available pre-installed with SCO Unix. It will shortly bring in a replacement box, code named ET, that will reportedly have a larger chassis and a more mini-tower flavour. The uniprocessor will be based on a 486SX upgradable to the P24T. It will be one of three new servers it brings in. Meanwhile, Wyse also announced its intention to support Unix System Labs' SVR4.2 ES/MP. It will provide an upgrade path for its SVR3.2 and SVR4 installations. It reckons it'll be shipping the stuff by the second half of next year.

DG FOLLOWS AViiON ANNOUNCEMENT WITH AVALANCHE OF SOFTWARE

By William Fellows and John Abbott

Having announced its latest low-end AViiON servers - the AV5500s - a few weeks ago (UX No 459) Data General Corp president Ron Skates unveiled a raft of new software partnerships and application availability in London last week. Skates claims that 20,000 AViiONs have been installed since the launch in 1989 (that compares with 50,000 of its proprietary Eclipse boxes, though sales of these have slipped from \$763m in 1989 to \$109m this year). However, doubt remains that DG chose the wrong horse when it backed Motorola's 88110 RISC for the AViiONS, and that customers will face a migration to another chip over the next few years. Although DG says it has yet to decide on its strategy, and claims it has 3-4 more years of life in the 88000 architecture, Joel Schwartz, VP of DG's AViiON Business Unit confirmed hints that the company has been making for some time about porting DG/UX to other RISCs (UX No 443, 449). Schwartz said that its DG/UX Unix operating system was being ported to "more than one" RISC processor, and that it would be available on other platforms "within 15-18 months". Aside from giving DG an exit path from the 88000, the strategy will give DG customers access to platforms also capable of running Microsoft Corp's NT operating system, said Schwartz. DG claims its DG/UX operating system is more than 90% compatible with the new Spec 1170 Unix application programming interface.

Data General scooped up at least six months' worth of Unix software announcements into what it calls its Enterprise Software/Service Portfolio. Steve Gardner, vice president of corporate marketing with the Westborough, Massachusetts-based firm - which has made a successful, if somewhat tortured transition to the open systems world - says that of the 20 or so new products and relationships embraced by the announcement, at least half have been generated by software houses approaching it, a marked change from the days when DG went cap in hand to ISVs. Gardner claims some 3,000 or so applications are now up on the AViiON Unix systems, which now account for some \$400m of the company's revenues.

HP OpenView, Tivoli and CA Unicenter

Top of the pile of announcements is DG's decision to plump for Hewlett-Packard Co's brand of network management. Reston, Virginia-based Digital Analysis Corp will put HP OpenView up on AViiONs and integrate it with OS/Eye*Node, DAC's network management solution which is already offered by DG. HP has already won support for NetView from DEC, IBM and NCR Corp, and says it has more deals in the pipeline. The combined system will ship from Spring next year. Concurrently with DG's announcement, HP said it was now offering support for IBM SNA networks from within OpenView. In view of the delay - or complete postponement (UX No 460) and see pages 1 & 2 - of the Open Software Foundation's Distributed Management Environment, DG has also picked up Tivoli Systems Inc's TMF distributed systems management framework, although even the current version 1.6 of the Tivoli technology won't be up on AViiONs until the middle of next year. Although DG is offering TMF alongside Computer Associates Inc's rival CA-Unicenter systems management solution, Gardner claims the two address entirely different markets. CA-Unicenter - now out at DG sites in beta form and due to be generally available on AViiONs by the end of the first quarter of next year - is being positioned by DG as a solution for customers coming from the mainframe world, whilst TMF is regarded as more appropriate for those that have already grasped the open systems stick. Also new on DG's Enterprise Management ticket is Patrol Software Inc's DDS/Patrol automatic monitoring and management tool - available immediately - and Sterling Software Inc's Connect:Queue scheduling and workload balancing system, expected during the first quarter of next year.

Software development

DG has partnered with CenterLine Software Inc for its Object-Center and CodeCenter C++ and C development environments - both due in the second quarter of 1994 - and with Forte Software Inc for its client/server Forte middleware, due by the middle of next year. Forte, which DG is also using internally, runs under Motif, Mac and Windows interfaces and supports Oracle and Sybase databases. Forte also has strategic partnerships with Apple Computer, DEC, IBM and Sequent Computer Systems.

Mainframe rehosting

There are new tools for allowing customers with a range of different systems to recompile existing applications and software environments for AViiONs. They include Cincom Systems Inc's Supra Starter Pack - aimed at Supra 1 users and due immediately - and Bombay-based Datamatics Pvt Ltd's xPort and dBridge Pace and Cobol conversion kits, which are due by the end of the year, targeted at Wang Labs Inc users. Datamatics will also now co-bid with DG to Wang customers. DG is to support Information Builder Inc's EDA/SQL database access middleware and will work with IBI to help mainframe users move applications written in the firm's Focus 4GL to AViiON systems. Bull North America's Integris division is working with DG to optimise its UniKix software for symmetric multiprocessing on AViiONs - DG will distribute the new version, in North America only. Information Management Corp's Open TransPort mainframe to Unix file transport and SyncSort batch processing software will also feature on AViiONs, from the first quarter of next year.

Financial applications

DG expects the greatest returns on its latest software ventures from a raft of new financial packages it'll be offering. These include Datalogix's GEMMS integrated Oracle financials environment and up and coming Peoplesoft Inc's Oracle-based client/server personnel and financial applications, all due by the first quarter of next year. Platinum Software Corp's SeQueL to Platinum, Concepts Dynamic Inc's Informix-based Control Series and Dun & Bradstreet's Smartstream 2.0 are all available now, with CA's Masterpiece due in the first quarter of next year. Meanwhile, via an expected agreement with Belgian firm Soft Cell NV, Symix Computer Systems' will be offering its Symix Solution combined with Soft Cell's financial software, on AViiONs.

Corporate support

With what it admits is the "lofty" goal of integrating the office into the rest of the enterprise, DG is also to offer a number of what it describes as corporate support solutions. Saros Corp's Document Manager repository and Oracle Corp's Parallel server are due by the end of the first quarter of next year, Uniplex Ltd's onGo environment - part of which was contributed by DG - is out now, whilst the firm's agreement with Sybase Inc has been renegotiated to include System 10 tools by the end of the year and the all-important Replication Server by the end of the second quarter of 1994.

OLIVETTI UNIONS SAY 2,000 MORE ARE TO GO

Ing C Olivetti & Co SpA is preparing a cost-cutting plan that will cost 2,000 more jobs at its Italian plants according to union sources called to a November 22 meeting to discuss it. Before agreeing job cuts, unions say they want a clear indication from Olivetti of its industrial prospects and the strategic options as it sees them. The company, which had 57,000 employees five years ago, is now down to 38,000, and still losing money - it made a loss of \$102m in first half 1993, \$395m for all 1992.

INFORMIX OUTLINES 1994 ROADMAP - STRIKES DEAL WITH MICROSOFT

By Alison Hawkings

At Informix Software Inc's European User Group Forum, in Cannes, France, last week, the company outlined its product roadmap for 1994 and announced a strategic marketing deal with Microsoft Corp to jointly sell Windows NT Advanced Server 3.1 and Informix-SE, its client/server standard database engine developers kit.

Object tools and CASE

Informix kicked off the meet by announcing its plans for the tools side of its business. This includes the release of its object-oriented fourth generation language, 4GL++, next year; the launch of enterprise-wide CASE repository; the introduction of a suite of access and analysis tools for end users; support for Microsoft Corp's ODBC and IBM DRDA specifications; and support for all major graphical user interfaces including Windows, Motif and character. The new version of 4GL++ is, according to Informix, fully object-oriented and a complete revamp of the former product. But all existing applications written using the current version of Informix's software will be able to migrate to the new environment without modification, says Phil White, Informix's CEO and president. New to 4GL++ is technology from its recently acquired subsidiary Intelicorp, which has developed a Windows-based front-end screen painter for the tool. It includes scroll bars, slide rules, customisable icons, menus and buttons. This is integrated with a set of visual class libraries that allow developers to build distributed applications graphically on screen. Distributed applications will assume native support for Motif, Windows or character-based front-ends irrespective of which environment they were developed in, Informix's director of product marketing, Ron Bauer, says. The programming language also comes with a connectivity class library, which lets users embed ODBC drivers in applications. This allows software to access data from third party relational databases and other tools. An EDI (Electronic Data Interchange) library will also be provided later next year to enable users to automate the exchange of information within a business and between business partners via applications. This technology will be provided by Swedish firm IDK Frontec, of which Informix has just purchased a 12% equity stake. 4GL++ will be available for both Unix and Windows NT. Accompanying 4GL++'s release in the second quarter next year will be the firm's new CASE repository based on Siemens Nixdorf Informationssysteme AG's Entity Relationship Model (UX No 409). According to Informix, the repository remains fairly faithful to SNI's architecture, except for the addition of an application programming interface which will enable third party CASE tools to hook in to it.

Informix Version 6.0 out this month, 7.0 next year

Version 6.0, which is expected to be introduced by the end of the month, will comprise the base architecture for all its parallel extensions plus on line transaction processing monitor support via X/Open's XA interface. Online 6.0 allows complex queries and transactions to be subdivided across multiple processors. Key to its framework are a series of virtual processors that can be conditioned to handle communication, asynchronous I/O and administration transactions separately. Version 6.0 includes parallel index builds, archive and restore tables, a graphical interface for tape management routines and fault-tolerant back up functions. Other features include parallel logical store, scheduled archive, intelligent tape labelling and an interactive operator interface. Version 7.0 will include Informix's massively parallel processing extensions that it is co-developing with Sequent Computer Systems Inc. It is scheduled for release in the third quarter next year, the firm says. At the heart of OnLine Version 7.0 is the parallel database query (PDQ) technology, which enables the database to address both simple and complex, CPU intensive and decision support queries. It does this PDQ structures data so it can be sorted, scanned and joined in parallel, breaking up large complex queries into queues of smaller transactions.

In another announcement at the conference Informix has signed a worldwide marketing agreement to bundle its Informix-SE database kit with Microsoft's Windows NT operating systems. Under the terms of the six month agreement Informix will also bundle Informix-SQL, Informix-ESQL/C, Informix-Net/PC and its ODBC driver. The promotional package will last until the second half of next year, when Informix and Microsoft will negotiate for OnLine 6.0.

In terms of new end-user analysis tools, **Informix** has introduced **Viewpoint**, a graphical database query and reporting tool that requires no programming skills, use of SQL or knowledge of the database schema.

On the database side, **Informix** outlined its symmetrical multiprocessing, parallel and massively parallel processing plans for its relational database, OnLine, which will appear in releases 6.0 and 7.0 respectively.

Roundup

San Mateo, California-based **Qualix Group Inc** has begun distributing San Francisco-based **Tidalwave Technologies Inc**'s high-availability software, Watchdog FMS, in the US. In the event of system failure, Watchdog takes over the management of Unix servers, providing such features as monitor restart. Version 2.0 of the product is scheduled to ship in December for Sun Microsystems Inc's SunOS 4.1x and Solaris 2.2 operating systems.

Hewlett-Packard Co is now delivering Dallas, Texas-based **OpenConnect Systems Inc**'s OpenConnect Server II (OCS II) for its 9000 series servers. OCS II turns the HP server into a gateway for connecting SNA-based systems to Unix boxes over TCP/IP, and is already up on various Unix systems.

UK Unix integrator, **Torchraven Ltd**, has spun its product distribution division into a new venture, **Torchraven-Logix Ltd**, formed with Croydon-based **Logix UK Ltd** - the PC distribution arm of Lucky Goldstar International Corp - owned jointly by the firms. The idea is to combine the Torchraven and Logix's respective Unix and networking expertise to target the VAR market. +44 81 763 2888

Sun Microsystems Inc satellite **SunPro** has signed up **GEC-Marconi Software Systems Inc** to market and support SunPro's range of Sparc tools.

Fault-tolerant Unix systems builder **Sequoia Systems Inc**, Marlborough, Massachusetts is seeking out business in niche vertical markets. It has joined forces with **Computer Sciences Corp**'s CSC Healthcare Systems Inc to provide completely integrated hardware, application software, consulting and facilities management services to health delivery organisations - we think that means people that try to make you better when you are ill or injured.

Ing C Olivetti & Co SpA, and **NetFrame Systems Inc**, have expanded their collaboration to form a joint venture company for the sale, support and marketing of all NetFrame servers in Europe. NetFrame International will begin operating in January. The two also agreed a three-year extension worth \$50m to the pact under which Olivetti sells NetFrame superservers worldwide. The deal includes exclusive rights in the UK, Italy and Spain.

Solbourne Computer Inc is putting Cambridge, Massachusetts-based **PDSI**'s project management software up on its Sparc-based servers - PDSI is to begin reselling Solbourne kit.

NEC and **Sumisho Electronics** have begun joint marketing of **Clarity**'s Rapport, saying it's the first software of its kind to be sold on Unix workstations in Japan. They figure they can sell 1,000 packages year one building to 4,000 by the third year.

Wollongong Group Inc has ported its PathWay Messaging e-mail system to **SunSoft**'s Interactive Unix 3.0; server versions are \$9,500, client copies are \$200. + 1 415 962 7156

National Information Systems has put its Motif-based Accent GraphicVUE project management system on **DEC**'s Alpha boxes under OSF/1.

ENTERTAINMENT "WILL DRIVE" COMPUTING TECHNOLOGY FOR DECADES, SAYS SILICON GRAPHICS

By William Fellows

With fun and games the big news at Silicon Graphics Inc these days, it's perhaps no surprise that chief executive officer, Ed McCracken, believes the entertainment industry will pick up much of the slack in defence industry spending as a result of the so-called "peace dividend." However, McCracken anticipates entertainment and consumer electronics industries will not only take up the slack, but will moreover drive the IT industry for the next 10 or 20 years.

Cultural challenge

The technology that the industry spawns, he argues, will feed back into mainstream commercial computing environments. One of SGI's goals therefore, is to transform the R series RISC architecture of its Mips Technologies Inc sibling into the Mips Multimedia architecture, says McCracken. In tooling-up for this world, the CPU environment, he says, should include the ability to provide graphics, digital video and audio as standard alongside normal text and numerical processing. SGI has organised its Challenge and Power Challenge server operations into three divisions in readiness for its expected entry into the mainstream commercial environment (UX No 460). Whilst its high-end graphics, multimedia and information server solutions will take-on distinctive characteristics, McCracken says that media server technology, destined for its cable television partners like Time Warner Inc, with its emphasis on I/O, real-time and interactive two-way capabilities is by far the most difficult type of computing to do at the moment. The cultural challenge, he says, is to improve system performance - I/O, access rates, CPU speed and the like - with every new box, as well as providing innovative new technologies for emerging markets. "To innovate at the system level you have to innovate at the CPU level." Firms can't even start to think about doing these kinds of things unless they own a CPU architecture, McCracken says - "you're deluding yourself if you think you can." He points to the fact that there are three times as many engineers working on the Mips CPU set now than there were when SGI bought the company back in 1991. Indeed, with eight new managers on board - including IBM Corp's PowerPC architect Tom Whiteside installed at the helm - and development funding from Japanese partners NEC and Toshiba Corp, McCracken is keen to stress the stability of the Mips enterprise after its rather leaky beginnings under SGI. He admits SGI hasn't won any new partners for Mips, but says it hasn't lost any either. SGI's latest round of partnerships with the likes of Nintendo and Time Warner will pull these out of the wood, he believes. However, McCracken observes, simply owning an architecture isn't enough to guarantee success. Even some of those that do have their own CPU family have had their problems. Sun Microsystems Inc, he argues, has forfeited much of the lead it once had in CPU and system performance to the particular requirements associated with its pursuit of the commercial market.

Unix matters

As far as other Unix matters go, McCracken says he wouldn't want there ever to be one single Unix implementation, one single ABI definition, Unix might as well be Windows NT then, he argues. The strength of Unix lies in the feature he comes back to time and time again - the ability to innovate using it. Ideally, he says, he'd like to have seen Novell Inc doing its own Unix product and managing the political process at the same time. He's resigned to another (single) group doing that work.

Low-end

At the low-end of its product range, SGI is courting the pre-press and production markets in a bid to get its Indy and Indigo workstations a hold on the reseller and VAR worlds. It's already got over 200 outlets in the US, but will have to go some to meet McCracken's stated aim that Indy should make up 50% of the firm's unit shipments by next year, and half of total revenue within two years.

...AND SGI SEES \$100m FROM TANDEM

Tandem Computers Inc and SGI have rather belatedly confirmed their OEM agreement, reported here back in September (UX No 455). Silicon Graphics looks for over \$100m of business from it over the two-year term of the agreement. The agreement covers SGI's symmetric multiprocessing Challenge servers, which Tandem will market under its own name, and the Indigo workstation product family under the Silicon Graphics name. Tandem will sell the Challenge XL enterprise server, L departmental deskside server and M network resource server as its Integrity Network Resource servers models NR/4436, NR/4412 and NR/4001.

GEOFF SQUIRE DRAWS THE SHORT STRAW AS ORACLE CREATES ONE WORLD

Late last week, Oracle Corp reorganised its domestic US and international operations into one world wide organisation - and Geoff Squire was the one that drew the short straw. Raymond Lane, president of Oracle USA, is to be president of the new World wide Operations, while Geoff Squire, formerly head of International Operations, becomes head of Corporate Business Development at Oracle, a post that is described as involving him in pursuing special projects. The Redwood Shores, California company says the organisational change reflects the need to respond to customers' needs on a global basis. "Our customers have globalised their businesses and they are increasingly in need of products and services that are priced, distributed and supported worldwide, without regard to geographic boundaries," chief executive Larry Ellison said. A Worldwide Operations Committee will be appointed, to be responsible for linking operational processes and ensuring closer ties with the company's product groups and with its Executive Management Committee.

FRENCH OBJECT TECHNOLOGY PIONEER O2 OPENS FOR BUSINESS IN THE US

O2 Technology SA, the Versailles object database developer, has opened offices in the US, choosing Mountain View, California. O2 says it already has several American customers, including AT&T Co, Bell Communications Research, and some financial institutions. It has appointed Douglas Little, formerly sales director at Servio Logic Inc in Alameda, California to run its operation. Helene Gans, spokeswoman for the company, said O2 doesn't expect any real sales before the second quarter of 1994, but adds that the California market seems particularly interested in the technology, with potential customers making significant requests for information: "We're glad finally to be in the States, we reflected on it a long time, and were lucky to find someone with a background in this field" she said.

PEOPLESOFT SETS 1994 GOALS

Diversifying payroll and personnel software specialist PeopleSoft Inc, Walnut Creek, California, has been telling us what it has up its sleeve for next year. It plans an Open Workflow module for its PeopleTools development environment that it says will automate a range of processes, including purchase order requisitioning, customer order processing, invoicing and salary increases. The firm will ensure the new package works with existing - and forthcoming - PeopleSoft applications and expects to develop interfaces to a range of third party electronic forms, e-mail, database workflow systems and imaging solutions. The company says PeopleTools will get full e-mail and workflow support in version 4.0 by the third quarter of 1994. Its PeopleTools Financials module will get additional cost accounting and budget reporting functions by the end of next year. The HRMS module gets Micro-Trac Systems Inc's Restrac resumé (curriculum vitae for those outside North America) scanning software - due by the end of this year - a client/server pension administration system co-developed with William Mercer Inc, and an employee time and motion manager, both due by the end of 1994. PeopleSoft Distribution will be a new set of four applications for materials management and distribution, including purchasing, inventory control, order processing and billing, all due by the end of 1994.

CHUCK PEDDLE'S NEW TANDON PROMISES MYSTERY PC/UNIX BOX

A restructuring deal, agreed by creditors should see Tandon Technologies' parent company TSL Holdings Inc emerge from Chapter 11 by early next year. The move is being made from an investment group including chairman Jugi Tandon and headed by Chuck Peddle, now Tandon's chief executive. New machines for the company are being manufactured by Siemens AG. Peddle's own company THStyme Ltd has effectly merged with the remnants of the personal computer manufacturer. Tandon is also betting much of its future on new semiconductor technology being developed by THStyme. On the organisational front THStyme (UK) Ltd has changed its name to Tandon Technologies (UK) Ltd and a similar re-badging has taken place in Germany and France, where the THStyme operations take over from the bankrupt Tandon operations. The existing Swiss and Spanish operations stay where they are. The new Tandon will be a wholly European operation with only the TSL holding company board based in the US. The company is loath to give details of the amount invested in the restructuring, or who the new investors are, other than Peddle, but Peter Hunter, general manager of the UK operation says that the restructuring has reached the rubber stamp stage, and is just waiting on US court approval. A new range of Siemens-built personal computers, including a hefty Pentium tower are being introduced to get the company on the road, but its long-term plan is to build "modular personal computers". Early next year a third generation Data Pac removable hard disk sub system will be launched - smaller, faster and with greater capacity than the current 100Mb to 400Mb offering says the company. The new mystery semiconductor will be used to design an MS-DOS and Unix-running machine that dispenses entirely with the current personal computer architecture. What ever it is, Deane says that it is currently moving to first silicon and should be ready for manufacture in nine months' time.

WALL DATA HAS NEW VERSION OF RUMBA TO GIVE A WINDOWS LOOK AND FEEL

Wall Data Inc, Beaverton, Oregon has announced a new version of its Rumba communications software which brings together the versions for the MVS mainframe, AS/400, and VAX/Unix machines, as well as adding a few new utilities. The product is called Rumba Office and is intended to give host software the look and feel of a Windows program. Specifically, the company says that it can be used with any IBM mainframe, AS/400s running OS/400, RS/6000s running AIX, Unix servers, Digital Equipment Corp VAXs running VMS, and DEC systems running Ultrix. The product is out now, but there is no word yet on pricing.

FAST ETHERNET ALLIANCE HAS INTEROPERABILITY SPEC

The Fast Ethernet Alliance, formed in August to try to persuade the US Institute of Electrical & Electronic Engineers to adopt Union City, California-based Grand Junction Networks Inc's proposal for doing 100Mbps Ethernet, has published its first interoperability specification. The 100Base-X specification was announced in July and was developed by members of the group, including 3Com Corp, Grand Junction, Intel Corp, National Semiconductor Corp, Sun Microsystems Computer Corp, and SynOptics Communications Inc. It will be presented for consideration to the IEEE this month, but the alliance says that it is being made available free of charge to anyone that is interested.

DEC ASKS SHAREHOLDERS FOR PREFERENCE SHARE OPTION

Digital Equipment Corp is following IBM Corp in adding a preference share option to its financing armoury, the San Jose Mercury News reported: it will ask shareholders to vote to allow the board to issue preferred stock, but insists that it has no current plans to issue any; analysts however said DEC needs another \$1,000m cash to help it through the transition to its new Alpha processor - "if they follow their current strategy, they'll have to add debt until Alpha" begins generating significant revenue in mid-1994, said John Logan, executive vice president of Boston researcher Aberdeen Group.

DATA CONNECTION WINS HITACHI, UNISYS, MEMOREX FOR ITS SNAP APPN

Enfield, Middlesex-based Data Connection Ltd has won further support for its implementation of IBM Corp's Advanced Peer to Peer Networking technology, with a further four companies joining Wellfleet Communications Corp in licensing it. In addition, two other companies are said to be "at an advanced stage in evaluating it", and seem certain to sign up. The four new licensees of the privately-held British company's SNAP APPN technology are Cabletron Systems Inc, Hitachi Ltd, Memorex Telex NV, and Unisys Corp, and while Hewlett-Packard Co and Northern Telecom Ltd have not yet licensed it, each says that it intends to do so shortly. The exact plans of the new licensees are still a little sketchy, but Hewlett-Packard says that SNAP APPN will be used to enhance functionality of its SNAPplus product line, which was originally announced in February, although it has not given a time-scale for this. Cabletron last week demonstrated its APPN network node implementation at the IBM APPN Solution Show case at the InterOp exhibition in Paris: this takes the form of a module for the company's MMAC hub, and the demonstration included APPN network node routing capabilities including directory and topology routing services. While Unisys has released no details of its plans, it says that an announcement is imminent, and Hitachi - which has also licensed Data Connection's SNAP-IX SNA-to-Unix interconnection technology - says that the two technologies will be used as the basis for its future products implementing LU6.2 and APPN in Unix-based systems. Northern Telecom says that the technology will be used to provide a "natural evolution" for the SNA Data Link routing services used by its Magellan DPN-100, while for its part, Memorex Telex is keeping silent on its precise implementation plans.

NETWORK MANAGEMENT FORUM

ANNOUNCES 1.0 OF SPIRIT SPECIFICATION

The Network Management Forum has announced the first issue of a specification for a common computing platform as part of its SPIRIT initiative announced in February. SPIRIT - which stands for Service Provider Integrated Requirements for Information Technology - is intended to provide computing system specifications for service providers to use in procuring equipment. According to the Management Forum, Issue 1 is restricted to areas where there was "widespread agreement" by member carriers. Work on the specification began six months ago, and is said to cover network and services management, office automation, accounting, ordering, billing and general service management and business management needs. Later releases will cover portability, internationalisation, SQL, system management and distributed transaction processing. Service providers and affiliates are said to include AT&T Co, Bell Communications Research, British Telecommunications Plc, the European Telecommunications Informatics Services consortium of PTTs France Telecom, Kokusai Denshin Denwa Co, Nippon Telegraph & Telephone Corp, STET SpA and Telefonica de Espana SA. Information technology members include Alcatel NV, Compagnie des Machines Bull SA, Digital Equipment Corp, Fujitsu Ltd, GEC Plessey Telecommunications Ltd, Hewlett-Packard Co, Hitachi Ltd, IBM Corp, NCR Corp, NEC Corp, Northern Telecom Ltd, Siemens Nixdorf Informationssysteme AG and Sun Microsystems Inc.

BULL CREATES LITHUANIA VENTURE TO COMPUTERISE THE COUNTRY'S INFRASTRUCTURE

Compagnie des Machines Bull SA and Lithuanian systems company Infostruktura have created NerISena, a joint venture company in Vilnius to bid on projects in the "Lithuania 2000" programme. The 10-year Lithuania 2000 programme calls for the computerisation of the country's administrative infrastructure, including national taxation and transport systems, at a total value estimated at between \$2,000m to \$3,000m. NerISena is held 50.8% by Infostruktura and 49.2% by Bull and is capitalised at \$500,000. Bull says that the investment represents the largest to date yet made in Lithuania by a French firm.

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Siemens Nixdorf is shopping around for a big-endian version of an Orion (that's the IDT low-powered MIPS R4000 derivative) box to OEM and sell with its Unix system.

Insiders say **Sun Microsystems** is narrowing its search for a new president to replace Scott McNealy who is happy only being CEO these days. We understand they did offer the job to Hewlett-Packard's Bob Frankenberg. Last time we looked he was general manager of its Information Systems Group.

McNealy is currently on a road trip to the Far East initializing relationships with the governments of such places as Malaysia, Thailand, China, Singapore and Korea.

MacWeek hears that **Apple Computer Inc's** Business Systems Division is working on Unix-based multiprocessors that will initially use the 80MHz PowerPC 601 processor, but aims eventually to use the 604 chips due out in the middle of next year. The machines, rated at up to 400 MIPS, will run native Unix AFP (AppleTalk Filing Protocol) server software, under development within Apple, says the paper, and it will run IBM's AIX 4.1 Unix implementation rather than A/UX. It will be the first Apple model to support Peripheral Component Interconnect (PCI), will have multi-disk RAID, and may include FDDI support. AFP, however, may not be ready in time for the initial release, in which case a version of AppleShare Pro on top of the portable Mac Toolbox will be used, not able to take advantage of the multi-processors.

After advising users of its **Teradata Corp** DBC/1012 mainframe-class database engine that they should regard the **Intel Corp-based** System 3600 massively parallel system as their next logical upgrade path - rather than the promised Pentium-based System 3700 (UX No 446) - NCR Corp will today (Monday) announce its longer-term plans for both sets of customers, some 180 in all.

Wyse Technology Inc's high-end Mips R3000-based X terminals due in September are now being readied for late this year or early next.

Banyan Systems Inc is reportedly considering moving the native version of its Vines network operating system over to a new Unix kernel from the ancient one it presently uses, System V 3.0. It's looking at all of the major Unix providers, but a decision isn't expected for at least 18 months. The transition will not affect the company's existing Vines for Unix product, currently available for SCO Unix and due up on HP-UX, AIX and Solaris in the first, second and third quarters of 1994 respectively.

George Fisher quit **Motorola Inc** for the top job at **Eastman Kodak Co** because he saw the opportunity of turning the floundering photographic, chemicals and pharmaceuticals company into a multimedia systems and equipment powerhouse - which could be good news for Sun Microsystems Inc, because when Kodak's systems require a computer, such as with the Photo CD processing system, Kodak usually turns to Sun; on the other hand, Fisher could decide that Kodak needs its own computer company to pursue all his dreams.

The trial of the suit between **Intel Corp and Advanced Micro Devices Inc** over the iAPX-86 microprocessor family begins this month and a fairly quick decision is expected: the trial, on Intel's complaint that Advanced Micro unfairly copied microcode in its Am287 chip, which was to have opened yesterday has been put back until November 15.

Microsoft Corp shareholders duly voted to reincorporate the company in Washington state to take advantage of favourable business laws. On the latest count, there are 250,000 AS/400s out there worldwide, but the extent of IBM Corp's failure to capitalise fully on the AS/400 is the fact that there are still a phenomenal 250,000 System 36s out there.

ASK Group Inc has started shipping Release 2.1 of Manman/X with improved manufacturing, finance and sales-purchasing application areas: it starts at \$25,000 for an eight-user system, \$250,000-up for 128.

NEC Corp president Tadahiro Sekimoto has confirmed that his company is ready to help *Compagnie des Machines Bull SA, La Tribune-Defosses* reports: "We will help Bull - I am ready to discuss things with Mr Descarpentries, whom I should receive in November or December; in any case, before Christmas," Seki said.

Cary, North Carolina-based **Sapiens International Corp** is to acquire SmartSystems Ltd, Oxford, distributor of SmartStar software.

In what looks like a response to a *Wall Street Journal* piece in which some of **IBM Corp's** continuing extravagances - staff country clubs, corporate jets, pricey videos to teach IBMers how to use the company phone system, IBM Corp has announced that it is slashing its US employee health care budget by a target \$285m a year, by asking employees to make monthly contributions for health benefits for the first time: the rate will be an average \$34 a month for one person, more if the employee wants to cover family members. The new IBM Personal Benefits Programme comes into effect on April 1 1994. The changes affect about 160,000 employees and 70,000 pensioners and their families.

Ing C Olivetti & Co SpA share prices slid last week as Rome magistrates decided to sue warrant for Carlo de Benedetti, not just over his own admission of millions of dollars of bribe paying for contracts with the state postal service a few months ago. New facts are said to have emerged, suggesting De Benedetti had not owned up to everything, and that he was a willing partner to the bribery. Already appealing against a six-year jail sentence for his alleged part in the 1982 collapse of Banco Ambrosiano, De Benedetti presented himself to police at dawn on Tuesday, and was eventually allowed to leave jail just before midnight. He is being detained under house arrest while investigators inquiries continue; prison staff said he had accepted the humiliating rituals of being fingerprinted and medically examined with good grace, *Reuter* reports, adding that they say he began the interrogation by kissing the hands of the two female magistrates leading the inquiry.

Shareholders in **Kendall Square Research Corp** have filed lawsuits against its president Henry Burkhardt, charging that he made misleading statements on earnings just days before selling shares valued at \$1m; the suits also charge that Kendall Square directors and officers issued repeated false and misleading statements about the company's earnings prospects; the company acknowledged that a number of lawsuits had been filed but said it believes that it has meritorious defences against all the lawsuits.

Informix Software Inc, Menlo Park, California is paying \$2.1m for a 12% stake in IDK Frontec AB, the Swedish developer of Electronic Data Interchange products. It also signed a marketing agreement with the Swede's Irix Inc unit to supply it with electronic data interchange products.

It's still a bit early to call the Great Chip Recession of 1994 yet, but another indicator that the market may be going off the boil has been identified by **Kidder Peabody & Co** analyst Jonathan Joseph, who says that spot market prices for memory chips are coming into line with contract prices, "which is generally seen as a cautionary signal in the market - we are not looking for a collapse of the industry, but we do think the group is in a gradual slowdown," he said.

Santa Cruz Operation Inc says Dan Steimle, its chief financial officer, treasurer and senior vice-president for operations is leaving for personal reasons; no replacement has not yet been decided.

NCR Corp is to use Austin, Texas-based **Trilogy Development Group's** SalesBuilder as the basis of its organisation-wide automated sales system. +1 512 794 5900.

Vicki Brown, vice president, technical system research at **IDC**, is going to become director of entry-level desktop product marketing at **Sun Microsystems**, a newly created slot in Chelmsford, Massachusetts where SMCC houses its low end business.

Zee Zaballos, long the chief spokesperson for **The Santa Cruz Operation**, is going into business for herself. She and a SCO colleague will be setting up a new still-unnamed PR firm once they get back from a trip abroad in a few weeks. They will probably partner with another firm known for its multimedia background. She's reachable at +1 408 457-0909

Compagnie des Machines Bull SA has launched new DPS 9000/900 models in its top-end GCOS 8 mainframe line and announced integration on both its proprietary mainframe lines of the Open Software Foundation's Distributed Computing Environment and the Tuxedo transaction processing monitor: the new mainframes are claimed to deliver up to 2,000 transactions per second and 2,000 applications; they are presumably the Acos 3900 machines already launched by NEC Corp in Japan.

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NCR UPGRADES ITS PARALLEL 3600 AND DBC/1012 SERVER SYSTEMS

NCR Corp last week enhanced its parallel NCR 3600 and DBC/1012 systems, just one day before IBM Corp's previewed its own mainframe Parallel Query Server - see page3. There are enhancements to the Ynet high-speed interconnect between the processors, Pentium upgrades for the Application Processors and 80486 DX2 upgrades for the Access Module Processors for both machines via board swaps. The Teradata Database System 1.5.0 adds a Performance Monitor, Two-Phase Commit, Join Optimisation, FastExport, Teradata Manager 2.0, use of both high speed Ynet intelligent interconnects in a single operation, and enhanced Password Security options. Oracle Corp is also now offering the beta test version of Oracle7.1 with Parallel Query Option. The alpha release of Sybase's Navigation Server is also available on the NCR 3600 - consulting firm Kwasha Lipton is the first site - NCR says it conceived, developed, and owns the base technology for the Navigation Server and chose Sybase Inc as its joint development partner. For co-existence in the IBM mainframe world, there is a new Multi-protocol Connectivity Manager to provide high-speed local network and Async communications via a SCSI connect, which saves Micro Channel slots on the 3600 AP. Up to four IBM and Unisys Corp channel connections can now be supported per 3600 AP. The new Pentium Application Processor is expected to roughly double system performance, for an additional 20% cost. For the 3600 Access Module Processor, the DX2 processor, will deliver up to a 73% performance improvement at the price of the current 33MHz 80486 processor NCR said. The upgrades work out at around \$3,500 per MIPS for the AP and \$4,500 to \$5,000 per MIPS for the database option. More details, including 3700 news, page4.

SEQUOIA CEMENTS DEAL WITH SAMSUNG, DELIVERS LOW-END SERIES 40

Although Marlborough, Massachusetts-based Sequoia Systems Inc says it has now chosen a RISC processor to power new generations of its Unix-based fault-tolerant technology, the company says its newly renegotiated agreement with Korea's Samsung Electronics Co does not mean it will be using the PA RISC that Samsung makes under license from Hewlett-Packard Co. Sequoia was originally to have developed a PA RISC-based fault-tolerant system under its own agreement with HP, which was cemented back in 1989 when HP agreed to resell Sequoia systems as its HP 900 Series 1200s and took a 10% stake in the company. However, Sequoia emerged from its well-documented financial troubles looking for a much broader development deal involving funding, joint development and resource-sharing, a deal HP shied away from (UX No 450). In Samsung, Sequoia seems to have found what it was looking for, and says all future products will be developed with partners. The new arrangement with Samsung is both a continuation and expansion of the two firms' 1990 agreement which called for the joint development of one product, the low-end Motorola Inc 68040-based Series 40 (UX No 290 & 293). Sequoia's financial difficulties meant that the Series 40, due a year ago, is only now coming to market, as a \$150,000 box which Samsung will resell in Asia and Eastern Europe as the SSM 6000. Sequoia has rights to it in the Americas, Western Europe and Australia. The system comes with up to four 68040s, from 64Mb to 192Mb memory, up to four I/O processors with VME-compatible buses and up to 88Gb disk. The series 40 will be followed by new products co-developed and jointly owned by the two firms using the unspecified RISC. Sequoia is remaining tight-lipped about its choice whilst it seeks approval from customers and isn't expected to disclose details of its new architecture strategy until well into 1994 (UX No 450). It says it has considered a number of options, including PowerPC. In the meantime, Sequoia plans enhancements to its own 68040-based high-end Series 400 system and says it'll move that technology over to use Unix SVR4 next year. Sequoia's other deal with Toshiba Corp, which is using Sequoia technology to build a Sparc-based fault-tolerant system, won't see product for around two years, it says.

PINK FORMS FOR 20 FULL-TIMERS, 80 PART-TIMERS, AT USL

Despite rumours of a bloodletting over at Unix Systems Labs last week, the way it turned out less than 20 regular employees were let go plus perhaps as many as 80 contract players whose projects were winding down anyway. Everything was reportedly very civilised and genteel. Those that have a right to go back to AT&T (provided AT&T can accommodate them) will supposedly be taken back and AT&T will put its huge resources at the disposal of the rest to find them new jobs. AT&T has a tracking system and old boys' network that can tap into old employees at new non-AT&T companies to find out what's going on and what conditions are. Compensation will reportedly also be generous. Sources say it's a company-wide adjustment for Novell.

NOVELL'S RAY NOORDA "MAY RETIRE BY JUNE"

Business Week is apparently getting ready to report that Ray Noorda will resign from Novell by June. Our Noorda watchers say they would be surprised if it took that long. They still lean to the notion of an AT&T-Novell merger rather than bringing someone in from outside to replace him, the latest applicants having been disqualified. But there's also talk of him narrowing in on a successor.

HP BEGINS TALKING OF NEW GENERATION RISC

Spurred on by DEC's boasts of 64-bit processing with the Alpha, Hewlett-Packard Co has begun hinting about the next generation of RISC technology in its research labs in Palo Alto, California and Bristol, UK. According to Wim Roelandts, Hewlett Packard VP and general manager, Computer Systems, DEC's flat addressing implementation of 64-bit technology is fine for scientific processing but less suitable for transaction processing. Hewlett-Packard already uses 64-bit addressing split into two parts on the current PA-RISC, a distinct advantage for TP work, says Roelandts. The next generation will keep this segmentation, while expanding the chip to 96-bit. Roelandts says there will be no need for users to re-engineer their software. DEC, he says, currently has the best CMOS technology in the business, but has concentrated on high clock speeds at the expense of everything else. He promises higher clock speeds from HP within the next 12 months, saying that HP currently achieves similar performance at 110-120MHz as DEC does at 200MHz.

X CONSORTIUM LEAVES MIT

The X Consortium has been separated from the Massachusetts Institute of Technology and is now an independent non-profit organisation under president Luther C Abel (UX No 442). Founder Bob Scheifler will stay until next February. It will be looking for new members to add to the hundred it currently has. Meanwhile, the X Consortium will manage the PEX Interoperability Center responsible for the distributed 3D network graphics protocol, an extension of X Windows. It will be moved out of Convex Computer Corp and over to the consortium's new headquarters in Cambridge, Massachusetts. Its scope will be expanded to include interoperability testing for other X-related technologies. Last week at the Autofact show, the X Consortium announced public availability of the Common Graphics Environment for the PEX 5.1 specification supporting texture mapping, transparency and antialiasing.

ASK LAUNCHES OPEN INGRES 1.1

The ASK group has launched a new version of its relational database, OpenIngres 1.1, after more than two years in development. New database modules add greater access, distributed computing, transaction processing, and object-oriented extensions; an API for Windows and Macintosh and further support for industry standards, ASK says. It has also revamped the database's core relational management engine. New to OpenIngres are BLOBS (Binary Large Objects) for multimedia applications, and a new module called the spatial object library, which is a class library of geometric objects for building geographical information systems. Other class libraries for specific vertical markets will follow. Support for transaction processing, via OpenIngres/DTP, is provided through X/Open's XA interface and will enable the database to hook into IBM's CICS/6000, USL's Tuxedo, NCR's Top End and Transarc Corp's Encina transaction processing monitors. Access to IBM's CICS and VSAM legacy databases is also provided for, the company says. Other enhancements include an application programming interface for Windows and Macintosh operating systems. This will let developers develop and deploy applications across each others systems, irrespective of where they came from. These new products will all be available from December. A key enhancement to the engine is the Management Architecture, which provides an SQL interface that allows ASK and third party tools to monitor and control database activity on-line. New logging and recovery mechanisms have also been added. This technology will be released in the summer of next year.

... AS SUN AND ASK/INGRES GET CLOSER TOGETHER

The ASK Group Inc has expanded its strategic partnership with Sun Microsystems Inc, the two companies announced last week. The revamped deal includes four separate product and marketing agreements between the two, covering the Ingres RDBMS, application development tools, manufacturing software and Sun's full product line of SparcStations and SparcServers. The two companies will cooperate to tune the ASK applications to run on Sun hardware and the Solaris operating system, and to provide customer support. Benchmark tests and cooperative engineering are also in the pipeline. And at the AutoFact exhibition in Chicago, the two said they would be jointly delivering distributed client/server products to the manufacturing industry, based on ASK's Man-Man/X product. An agreement between ASK and SunSoft Inc will concentrate on porting ASK/Ingres products to Solaris x86 for Intel-based platforms. Finally, ASK has agreed to join up with SunSelect in supporting the Public Windows Interface (PWI) initiative, Sun's attempt to bring the application programming interfaces for Microsoft Windows into the public domain (UX NO 434). Other supporters of PWI include American Airlines, Borland International, Word Perfect, Hewlett-Packard Co, IBM and Norwegian Telecom.

ORACLE WINS \$23M DEAL WITH CAROLINA UTILITY

Oracle Corp has won a two-year, \$23 million mainframe replacement development contract with Charlotte, North Carolina-based electric utility Duke Power Company: Oracle's Consulting Division will analyse, design and develop an object-based customer information system for the company, while its project team delivers an integrated work management system and marketing information system. The customer information system will use front-ends from ParcPlace Systems Inc to connect to Oracle7.

...AS ORACLE JAPAN SLASHES THE PRICE OF ITS DATABASES

Software pricing is becoming a more and more contentious issue around the globe, with Borland International Inc in the vanguard of offering low, low pricing while Microsoft Corp seeks to keep prices firm. Oracle Systems Corp's Oracle Japan appears to have joined the Borland camp, and in one fell swoop, it lowered the prices of its relational database products by between 16% and 70%. Its aim appears to be to increase its market share - but which is the "right" price - the old or the new?

OBJECT DESIGN BROADENS TOOLSET - JOINT VENTURES WITH IBM AND PARCPLACE

Object Design Inc is expanding its product portfolio to include a broad range of new tools for its ObjectStore object-oriented database. The new tools, which are scheduled for release over the next year and in to 1995, will be developed by the company itself, bought via licensed technology, or developed in joint ventures with IBM - which has a 20% equity stake in ODI - and with other third parties, says president and CEO, Kenneth Marshall. The first development tool to be introduced is support for ParcPlace's SmallTalk object-oriented programming language, which will enable developers to build applications in either the firm's current C++ offering or SmallTalk. Other software developments will be centred around five different areas: the graphical user interface; development environments; report writers; performance tools, and design and analysis software. According to Marshall, ODI intends to develop a graphical user interface builder in the same league as PowerSoft's PowerBuilder software. This is the company's main focus at the moment and it should be introduced by the end of 1994, says Marshall. Next on the development list is a report writer, which the firm is looking to license technology for. The performance tool, which IBM is developing is expected to be launched later next year. In addition to its tool strategy, ODI is also preparing to introduce ObjectStore Single, a standalone version of ObjectStore for personal computers, which is not distributed or multi user. This is specifically targeted at developers interested in experimenting with an object-oriented database for the first time. "ObjectStore Single is an entry level simple version of the database and will be priced at a few hundred dollars. The company's main priority with this product is to seed out the commercial market to get people used to object databases," Marshall says. ObjectStore Single is scheduled for release by the end of 1994.

PEERLOGIC'S PIPES IS NOW AVAILABLE ON HP/UX

PeerLogic Inc's Pipes Platform distributed computing middleware software is now available on Hewlett Packard Co's HP-UX operating system. Pipes Platform, which resides between applications and disparate operating systems and network protocols, is described as client/server and peer-to-peer distributed computing software based on a symmetrical, message-passing architecture. It can be used to integrate PC LANs and SNA networks; TCP/IP and NetWare; OS/2, Windows, MVS and Unix at a single site or multiple remote locations. A Pipes kernel runs on each machine, combining to form a logical network and handling all network input/output. Unit pricing for the HP-UX version starts at \$730 per node, although discounts for multiple nodes are available. Software developers kits cost \$730. Pipes Platform also runs on AIX, SunOS, MVS, Windows, OS/2 and NetWare systems. San Francisco-based PeerLogic is an IBM business partner, and has strategic business deals with Legent and Texas Instruments.

SWISS WORKSTATION AG HAS ACTIVE TERMINAL EMULATORS

Workstation AG, a Unix software company based in Lattbrugg, Switzerland, has launched a range of terminal emulation packages for Unix workstations. Three packages - emulating DEC VT, IBM 3170 and Unisys UTS mainframe terminals on DEC, HP, IBM, Next, Silicon Graphics, Sun and generic Intel 486-based environments are currently available, with support for other systems planned for the future. All the terminal emulators are fully integrated within their respective window systems, says the company, an advantage over existing passive emulators, since all the control and status indicators of the original terminal can be set in their original meter windows. Cut and paste between the emulation window and other windows on the workstations is also possible. Terminal windows can also be customised for user's needs, even allowing for the remapping of the "terminal" onto buttons on the Unix workstation screen. Pricing depends on the emulations required. A demo version costs \$99. +41-1-828-9555.

NEW TPC COUNCIL GUIDELINES SEEK TO CURB "CREATIVE BENCHMARKING"

In response to challenges about the Transaction Processing Council's credibility, brought about The Standish Group's claims earlier this year that Oracle Corp had hyped up TPC-A results (UX No 443), the Council has now published a new set of guidelines for benchmark specifications. Called Clause 0, the guidelines have been designed to attempt to "prohibit over aggressive implementations of any part of the benchmark specification by test sponsors". This means that the TPC now requires all companies to comply to certain restrictions to stamp out special benchmarks. In the past, some manufacturers have designed benchmarks to pretty up performance ratings by using special switches during testing, such as the discrete transaction option. The new Clause 0 guidelines demand that all benchmarks include documented and publicly published results; and that the product being tested is used or can be bought by end-users in the market area the benchmark represents. In another announcement the TPC has also made it mandatory for suppliers to have independent audits done of their results. The TPC will license its own set of auditors who will provide independent verification of results before they are published. Previously, the TPC only recommended the use of auditors. Manufacturers will also have to bear the extra cost of using an auditor. In a letter to TPC members Kim Shanley, TPC's CEO says that the organisation's "credibility had been undermined by being too lax in the enforcement of the spirit of benchmarking." Recognising this, the TPC has now banned "all benchmark specials". Benchmark validation now has to go through a three tier submission process. First the benchmark has to comply with the new Clause 0 restrictions and then the results are validated by an external auditor. The results are then registered with the TPC and are reviewed over a 60 day period by the TPC member review board for ratification.

SUNINTEGRATION TOOLSET HELPS USERS MOVE TO CLIENT/SERVER

Sun Microsystems Inc satellite SunIntegration Services, set up to develop and implement integration solutions for customers, has introduced a set of tools to help users to move to client/server environments. The software, collectively called the Sun Enterprise Toolset, was originally developed to integrate a client/server framework internally within Sun. The five new tools include: SunDANS (distributed administration of network software), which allows a firm to distribute and manage software products across any network; SunRAI (Remote Application Interface), which allows direct and unmodified communication between Unix and legacy systems; Sun Paperless Reporter, which provides an electronic and viewing system for on-line information; Sun ConsoleServer, which allows a system administrator to control multiple, local and remote systems; and the Sun DataCenter Scripts, which provides a set of programs that help automate and customise complex data administration tasks. The Sun Enterprise Toolset will start to ship next year.

ATRIUM FILLS IN DME GAP WITH AT/PALLADIUM PRINT RESOURCE

Atrium Technologies Inc, Austin, Texas, lost no time in saying it can provide what the Open Software Foundation won't (UX No 460). On the heels of OSF's announcement that it will eliminate Palladium V2 print resource manager technology from the Distributed Management Environment (DME), the Texas start-up announced the availability of its own AT/Palladium print technology, just as we figured. It will offer both source code to OEMs for \$125,000 and binary for redistribution according to a sliding volume scale. The technology provided includes a DCE 1.0.2 version of the Palladium V2 print spooler/scheduler service, a Postscript supervisor, Posix-compliant system management commands and the ISO DPA application programming interface. The company says the stuff will be licensed to OEMs in a manner similar to OSF's original distribution strategy. Its been shipping as an embedded part of Dazel, its DCE-based client/server delivery application.

RED BRICK RAISES \$6.4M IN ITS SECOND ROUND OF VENTURE FUNDING

Red Brick Systems Inc, the Los Gatos, California supplier of relational database management systems for client/server data warehousing, reports that it has raised \$6.4m in its second round of venture financing. The funds will be used for research and development to expand the capabilities of Red Brick Warehouse, and to double Red Brick's worldwide sales force over the next 12 months. The new funding effort was led by Hambrecht & Quist Inc, and other new investors include Bay Partners and the Shea Venture Group. Previous investors back for another bite were Advent International, Asset Management, Menlo Ventures and Stanford University and private investors James Martin and John Warnock.

IBM PREVIEWS ITS PARALLEL SERVER

Strange, isn't it - IBM Corp has a board that packs six 9221 microprocessors, creating a six-way tightly-coupled multiprocessor on a single board, and showed it as one of the building block of its so-called Parallel High Performance Database Server - but if it really works, and IBM is really committed to crashing the price of mainframes, why hasn't it launched the thing as a top-end compact 9221. The answer is presumably that there are still a few people out there prepared to pay a much higher price for the 9121 model it would compete with - at which point people start to wonder whether it is really committed to cutting mainframe tags - either that or even the single board building block doesn't actually work the way it should yet. see page 8.

UNISYS ADDS NEW PCS AND CTOS BOXES

Unisys Corp last week launched six new CTOS SuperGen and 10 new EISA/ISA PC systems (the PW2s) that all use its Intel-based Common Engineering Platform (CEP) first introduced on its low-end U6000 Unix boxes. Using the same hardware base for CTOS, PC and Unix lines, and then adding the appropriate graphics, I/O and subsystem options, cuts the company's manufacturing costs and allows more flexibility on operating systems offered - the list currently includes Windows, NetWare, UnixWare, SCO Unix, Open Desktop, OS/2 and CTOS. NT is promised for December. Even the desktop A Series A7 proprietary "mainframe" now uses the CEP.

...BUT CHIEF UNRUH REMAINS CAUTIOUS

Unisys Corp chairman and chief executive Jim Unruh says he maintains an overall cautious outlook for 1994 because of the persistent economic weakness in major international markets: the company hopes to increase both sales and earnings in 1994, but said that business in Europe has continued to deteriorate, and prospects for the first half of 1994 are not expansive although he hopes for improvement sometime in the second half; rather surprisingly, he says that while Japan remains weak, it is in a better position than Europe to recover; Unruh also said the company is seeing very strong demand for its new low-cost 2200 mainframe introduced in September, but is not enough to offset the overall decline in the core mainframe business, which contributed \$1,900m of business to the company's 1992 turnover.

IBM PUTS ICL CAFS ON RS/6000s

ICL Plc and IBM have signed an agreement to make ICL's Content Addressable File Store-based (CAFS) database Search Accelerator technology available on IBM's RS/6000 Unix systems. The Search Accelerator is essentially a piece of hardware technology that allows users to off-load parallel searches of relational database tables to the machine's Input/Output system.. In its simplest form, it is designed to enhance ad hoc complex query performance on databases such as Oracle, Informix and Ingres. According to ICL, this reduces the central processor workload and doesn't impact response times. The agreement with IBM requires no change or modification of the technology to run RS/6000s, says ICL. Pricing and availability have yet to be decided and will be announced next year.

NCR MAPS OUT PARALLEL PLANS, SIZES UP THE COMPETITION

By William Fellows

As well as unveiling new enhancements to its System 3600 and Teradata DBC/1012 line of parallel systems last week - see front page - NCR also fleshed out the future for both sets of users.

When NCR bought Teradata Corp back in 1992, users of the El Segundo, California firm's line of DBC/1012 back-end database engines were promised a migration route to NCR's planned 3700 system. The 3700 was seen as the next step up from both NCR's 100-CPU, high-end systems 3600 and the Teradata machine. With Teradata technology at its core, the 3700 was originally to have been released at the beginning of this year. By last year that date had slipped to 1994, and earlier this summer NCR advised that the 3600 should provide Teradata users with their upgrade path (UX No 446). The 3700, a Pentium-based technology with thousands of CPUs - compared to the 3600's maximum of 100 processors - is now conceived as a package of incremental enhancements to the 3600, not a system *per se*.

Fork lift

At last week's event, Teradata founder Philip Neches, now senior vice president & chief scientist at NCR, admitted the company had changed its plan for the 3700. He said features that should have gone into the 3700 and become available as a box swap for Teradata and 3600 users are instead being incorporated into the 3600. Andre Dahan, vice president of NCR's large computer systems northeast division, said the firm originally thought it could "fork lift users from the 3600 to the 3700," then realised it would have to do something else and decided upon a gradual course of upgrades.

The NCR 3600, which has shipped since April, now has the Teradata database, Oracle, Ingres, Informix and Adabas databases up on it - whereas the DBC/1012 machine comes with just the Teradata option. Beyond the 3600 Pentium upgrades for the DBC/1012 announced last week, Teradata users are promised continued support, limited upgrades and release 1.5.1 of the Teradata database through to 1995. Although revenue from sales of the two parallel processing lines have been roughly equal since April - and DBC/1012s are still being delivered - Neches says all new customers are being steered to the 3600.

Following the latest round of enhancements announced last week, 3600 users can expect a new raft of additional technologies (3600 Release 3) around 1995, including higher speed Ynet interconnects, Release 1.5.1 of the Teradata database, Pentium Access Module Processors, 3.5" disk storage technology, enhanced system, communications and peripherals management and some new middleware components. 3600 Release 4, due in 1995 or beyond, will include Release 1.6 of the Teradata database, Oracle 8.0 and Asynchronous Transfer Mode communications. By this timeframe, NCR will have its 3700 technology in place so that 3600 Release 4 and 3700 Release 1 are effectively common nodes. Pentium architecture, Teradata for Unix, Sybase and Oracle databases will be common to the lines, however the 3700 will incorporate NCR's next-generation BYnet interconnect system.

NCR's existing Ynet tree-type interconnect system allows two inputs and one output at any node. BYnet is regarded as a "banyan" or folded tree system that accommodates two inputs and two outputs, allowing the same number of nodes to be employed at the top as at the bottom of the architecture. BYnet will deliver the bigger bandwidths required for multimedia and other types of processing.

NCR's brand of parallelism lies in the MIMD - multiple instruction multiple data - technology camp. MasPar Corp and Thinking Machines Inc use an alternative SIMD - single instruction multiple data - form to deliver parallel processing. Within the MIMD camp there are shared memory and shared nothing architectures.

IBM Corp's parallel solutions are based upon the use of shared memory, a concept implemented in software which Neches doesn't believe will scale easily to new hardware requirements. Shared nothing constructs are used in nCube Corp and Intel Corp parallel systems, as well as by NCR. It is at the interconnect that these solutions finally differ - Intel and nCube preferring a mesh-type system of joining nodes with NCR using tree and folded-tree mechanisms.

Discounting

Despite a growing band of hopefuls in the world of massively parallel commercial systems - ICL Plc, nCube, IBM Corp and Meiko Scientific Ltd to mention a few - Neches says they are all delivering unproven, first generation technologies. Moreover, he believes, many are tying pricing structures for their solutions too closely to the world of mainframe residuals, where terms are based on methods of discounting from a price customers would otherwise pay for similar mainframe class performance. Neches says NCR pricing is now based firmly on the CPU performance curve, not the mainframe performance curve, a trend he believes will see traditional mainframe residual pricing go out of the window.

NCR, which is building a \$60m facility in San Diego to manufacture its parallel systems currently invests around 20% of its research and development budget in parallel technology development. Teradata shipped its first back-end database engine in 1983 and together with the 3600s installed since April NCR has some 400 parallel systems installed at 180 sites. 50 of those systems are 3600s running Oracle parallel server. Most recently, the Reuters news agency has ordered a 3,500 MIPS 3600 system - the largest parallel system in Europe, Neches claims - whilst US retailer, WalMart with a 476 processor DBC/1012 handling three terabytes of data is the largest commercial parallel user in the world, NCR says. With relational database technology only now delivering the robustness associated with traditional solutions, Neches says there is little incentive, from NCR's point of view, to put newer object-oriented technologies up on these boxes yet, although it is tracking developments, he says.

Lionshare

The company commands the lionshare of the parallel market, and dominates the commercial sector. Smaby Group puts NCR's revenue from massively parallel systems at some \$260m in 1992, from a market worth around \$520m in total. Thinking Machines weighed in with \$91m; Intel, \$73m; MasPar \$26m, nCube \$16m, Meiko \$16m and others \$17m. The market, which includes scientific and engineering as well as commercial systems, is expected to grow at around 20% a year. The difference between the two is that in commercial processing 90% of the work is done at the system software level, whilst up to 99% of work undertaken by scientific and engineering solutions takes place within the application. That's why NCR's work on developing parallel extensions to Unix SVR4 is so important, argues Neches, extensions he'd eventually like to be taken up a standard components of a common Unix API set.

Apart from its specific parallel announcements, NCR has also introduced a new "customer focused" business model for its enterprise solutions market, under which users are being promised that there will never be more than two levels between them and the most appropriate technical and service support, whether inside NCR or with a third party. It's all part of NCR's overall plan to move from being a product supplier to a solutions supplier and integrator, says Neches.

SYNCHROWORKS ALMOST READY FOR RELEASE - SUNSOFT SHIPS IT TO EARLY DOE ADOPTERS

Since winning an extra \$4m funding back in May from its Japanese co-founder, Toyo Information Systems, Osaka, Oberon Software Corp has been hard at work through the summer beta-testing its SynchWorks object-oriented visual programming environment which is due for formal release any day now. The Cambridge, Massachusetts-based firm has already won the backing of SunSoft Inc, which is buying SynchWorks and shipping it as part of the Distributed Objects Everywhere early developers' release. The idea is to help Solaris users move up to the DOE environment and Oberon hopes to win a long-term contract. SynchWorks includes Object Design Inc's object database and allows users to construct visual implementations of Unix programs - including those built using relational database technology - and plug them together with other objects so that they work as a complete program. Oberon describes its software as "object hyperspace" where object and non-object technologies can be brought together in a single visual programming system. It says SynchWorks could work with any OMG Corba-compliant system, including the forthcoming IBM Corp and Hewlett-Packard Co object environments, although it is currently only up on Sun workstations. Oberon will sell SynchWorks in the US, Toyo has rights throughout Asia and TGL is selling the stuff across Europe.

ROSS GUNNING FOR SUN UPGRADE BUSINESS

With 25 incoming calls a day and a claimed 50 installations already under its belt, Fujitsu Ltd's Ross Technology Inc sibling says it has got all the business it needs for its HyperSparc RISC upgrade solution coming in without having to go and bang on doors at the moment. With Hyundai Electronics America Inc's Axil workstations Inc already beating Ross' drum in the systems business with its line of HyperSparc-based workstations, the Fujitsu unit is now focused on gobbling up as much upgrade business as it can get from Sun Microsystems Inc users. Ross is pushing its superscalar HyperSparc into this OEM upgrade space by offering Sun's Galaxy server and Sparcstation 10 users new MBus modules to replace their existing processing units. The Ross chip set runs at 55MHz, is rated at 75 SPECfp92 and 55 SPECint92, and is available in two or four processor configurations at \$6,000 and \$10,000 respectively. There are estimated to be around 13,000 Galaxy servers in use - Sun's two year-old Sparcserver 600MP range - which were designed around the 40MHz Sparc Ross supplied to Sun when it was owned by Cypress Semiconductor Corp. Ross estimates most Sparcserver 690MP owners have spent well over \$150,000 each on their hardware, some \$400,000 on software, and claims HyperSparc upgrade modules offer them a 2.5 to 3.5 time performance boost for only \$10,000. Sun's Sparcstation 10 - of which some 75,000 have been delivered - uses the 45Mhz Texas Instruments Inc SuperSparc. Ross is hoping to woo over some of these users too, especially for its quad CPU option, as Sun's own four-CPU desktop isn't yet - according to Ross - being shipped in any volume yet. Ross hasn't yet been able to cut a deal with Sun for HyperSparc - if Sun were to carry the processor that could probably increase Ross' business several fold overnight - indeed the likelihood of such a deal now ever making it to the table seems to recede further every day. Ross' reasoning is that Sun is necessarily more interested in selling new and larger systems to customers rather than low margin upgrades which extend the life of its existing systems. Ross' next slew of HyperSparcs - formerly known as Gemini and Viper (UX No 441) now dubbed Colorado - will be moved to its new parent's manufacturing process and produced in 0.5 micron, three-layer metal technology at 90MHz. An interim 66MHz iteration of the existing part could be offered in the first quarter of next year, depending on how the upgrade programme goes between now and then. Ross is readying a new set of announcements featuring tie-ups with Sun software partners to try and broaden the appeal of HyperSparc.

NOVELL SUPERSEDES NETWARE LITE WITH PERSONAL NETWARE

Novell Inc, Provo, Utah has announced its replacement for NetWare Lite, in the shape of the Personal NetWare first hinted at in July. Describing the new incarnation as a "major upgrade," Novell says that one of its major benefits is that Personal NetWare incorporates the same Universal NetWare Client as NetWare 2.X, 3.X and 4.X: previously two different shells were required to talk to NetWare Lite and full-blown NetWare. This unification has also been extended to network administration and security, which the company says is now "seamlessly integrated" with NetWare. Also new with Personal NetWare is a built-in SNMP agent, and Novell has added its own Network Management Responder software, which is claimed to simplify network administration and management. In addition, Personal NetWare is manageable through the company's NDMS NetWare Distributed Management Services announced a few weeks ago. Among the other features are auto-reconnect (enabling servers to be removed or connected without interruption to other network use), and the ability to log-on to all network resources for which the user is authorised by entering just one password. Personal NetWare also enables users to mix MS-DOS- and Windows-based workstations and servers on the same network. Available by the end of the year in the US, the single-user version will have a list price of \$100, with the five-user version costing \$400. Novell says that it is also to offer a 90 day upgrade price of \$40 to existing users of NetWare Lite and DR DOS. German, Spanish, French, Italian and Japanese local language versions are expected around six weeks after the launch in the US.

IBM MAY SELL ITS FEDERAL SYSTEMS COMPANY

With cost-cutting the order of the day in government all around the world, business with the state is not the pot of gold it used to be, and IBM Corp last week confirmed reports that it is considering selling all or part of what is now known as the IBM Federal Systems Co. It says it has been contacted by a number of interested parties regarding a potential sale of all or part of the business, and is evaluating the inquiries, while emphasising that it has not yet reached a decision. The business bids to offer information technology products and services, including complex systems integration projects and aerospace systems, primarily to the US Department of Defense and other federal agencies. The Bethesda, Maryland business had turnover of \$2,200m and net profit of \$71m after charges. It employs 11,400. *The Washington Post* reckons the unit could fetch \$750m to \$1,000m.

NCD WINS \$2m SIEMENS PACT

Mountain View, California-based X-terminal pioneer Network Computing Devices Inc has won a worldwide purchasing agreement from Siemens AG under which any Siemens department can buy X terminals and software products through Siemens ANL Germany or Siemens International Procurement Services Sunnyvale. The agreement, which was signed with the latter organisation, is valued at \$2m annually; the terminals will be for internal Siemens use and for marketing to customers.

BENEDETTI HOUSE ARREST IS LIFTED

Carlo De Benedetti's arrest by Roman prosecutors last week (UX No 461) has been "a painful experience" for him, and one that "bears grave risks for the companies which make up my group, first above all Olivetti, to which I've dedicated and will continue to dedicate the biggest part of my energies," he said in an open letter to the Archbishop of Ivrea: De Benedetti was responding to a previous open letter written by the archbishop in Ing C Olivetti & Co SpA's home town, which urged De Benedetti to do whatever necessary to end the affair and diminish the potential negative consequences to the company; "What has happened in the last few days appears absurd not only to me, and you have seized on the essence and the dangers, courageously divulging your opinions; the prosecutors, as is their duty, will render justice; I am calm and confident," De Benedetti's letter said. Shares in Ing C Olivetti & Co SpA rose 3% after Rome magistrates lifted the house arrest order.

QUARK XPRESS MAKES A KILLING ON UPGRADES

Quark Inc has a lot to learn about keeping its customers happy. Recently, the company made Quark XPress 3.2 available before the upgrades, meaning that existing customers could not access any files sent to them by colleagues with the new version. When complaints flooded in, the UK office in Guildford, Surrey went around telling people to "go out and buy a new copy if it's that critical". Finally this week, upgrade letters were sent out to UK customers - and customers are confronted with a bill of £150 per copy. For users with multiple copies of the software this makes the upgrade extremely unattractive - yet if they want to swap Quark files around they are left in a very awkward position. Embittered Quark users are now advising those new to desktop publishing to look elsewhere for their software.

POWERSOFT TO BUY WATCOM

Powersoft Corp, Burlington, Massachusetts signed a letter of intent to acquire Waterloo, Ontario-based Watcom Corp, which is majoring on C compilers these days. It agreed to pay 1.4m new Powersoft shares, valuing Watcom at an indicated \$48m. Powersoft says the two have a shared vision for the future of client/server computing and points out that it chose Watcom's database engine to be bundled with its Enterprise Series tools nearly a year ago. Watcom is an offshoot of the University of Ontario, the source of much of its technology and skills. It offers Watcom C/C++ optimising compilers for 16- and 32-bit Intel Corp iAPX-86-based personal computers and client/server SQL products.

APPLE TO LAUNCH MAC+ MS-DOS MODEL

Apple Computer Inc is expected to launch its combination Mac and Windows machine as the Quadra 610 DOS Compatible at Comdex this week, *MacWeek* hears. The machine, code-named Houdini, includes the Apple Windows co-processor board and enables users to switch among the System 7, MS-DOS and Windows environments with a hot key. It is expected to include an 80486 processor and a VGA graphics chip, and comes plugged into the 68040 Processor Direct slot. It will use the screen, RAM, SCSI ports, serial ports and hard disk of the Quadra. Once the hot key is pressed, the Microsoft Corp environment takes over the screen; a second keystroke returns the user to the Mac System 7. The machine is not expected to support CD-ROM or networking in Windows or MS-DOS mode. It is expected to be offered in three configurations - a base one with 8Mb and 160Mb disk and floating point unit, the same thing with built-in Ethernet, and that with a 230Mb disk.

ILOG UP ON DEC'S ALPHA MACHINES

French object-oriented development tool supplier Ilog SA says its SMECI and MASAI products are now available for Digital Equipment Corp's Alpha AXP workstations running OSF/1. Used largely in industry, SMECI is a development environment for complex applications that covers decision support, diagnostics, process control, configuration, design, and simulation. Man-machine graphic interface generator MASAI features a graphic library with over 100 items, including spreadsheet generator MASAI CALC and MASAI 2D, a tool for integrating two-dimensional vector designs into an interface. Both products are also available for Windows 3-based machines and for Unix and VMS workstations from DEC, Hewlett-Packard Co, IBM Corp and Sun Microsystems Inc.

AFIC HAS DATABASE REPLICATION SYSTEM

New York-based AFIC Technologies Inc claims its Multi Server Option allows an unlimited number of users to access the same database from any server, in any location, at the same time. AFIC says MSO works on the SQL level rather than the data itself and sends only the SQL instructions to added or altered data, rather than entire blocks of data. MSO is up on Sun and HP systems, no prices given. +1 212 406 2503.

LOCUS HAS NEW PC-INTERFACE FOR NOVELL'S UNIXWARE

Locus Computing Corp of Inglewood, California has announced new versions of its PC-Interface for MS-DOS and Windows and PC-Interface for Macintosh products that run on Novell UnixWare Application Servers. The software enables personal computer and Macintosh users to share files and applications on the UnixWare server, or to use any Unix or personal computer printer on the network. The new versions of the product are also said to support System V.4.2 versions of the Unix operating system. The products are due to ship within 30 days; no word yet on pricing.

MASPAR CUTS 25% TO CONCENTRATE ON NARROWER MARKETS

Sunnyvale, California-based parallel processor pioneer MasPar Computer Corp is having to scale back its ambitions, and concentrate its marketing efforts on only the most promising markets. The retrenchment means that 38 people, 25% of the workforce, must lose their jobs. The areas where it reckons it has the best chance of meeting its objectives are high-performance image and signal processing, business information systems and biotechnology applications. Only customer support escapes lay-offs but while sales for 1993 will be about flat, profit is seen in 1994.

TAO SYSTEMS TO DO MULTIMEDIA MACHINES WITH INMOS

Tao Systems Ltd, the Belsize Park, NW company with the Taos distributed processor-independent operating system with a 13Kb kernel (UX No 438) has won a joint development agreement with the Inmos Ltd arm of SGS Thomson Microelectronics NV on a new family of multimedia machines for the OEM market, which will use Transputers, or other processors that implement the IEEE P1355 standard for heterogeneous multiprocessor interconnection. No value.

ICL INSTIGATES BIG REORGANISATION WITH TECHNOLOGY PLC

ICL Plc has organised a big shake-up of its Technology Plc subsidiary under which ICL will in future fulfill all orders taken by Technology for ICL personal computers and mid-range products direct from the Manufacturing & Supply division in Ashton-under-Lyne, Manchester, and the Configuration Distribution division in Warrington transfers to Manufacturing from Client-Server Systems. A new Technology Services will combine Technology's existing services operations with ICL Customer Services and Sorbus (UK). Technology will continue to deliver and install all the non-ICL kit - mainly Compaq Computer Corp, Toshiba Corp, Digital Equipment Corp and Sun Microsystems Inc machines - it handles.

NO CHEER IN SIEMENS RESULTS

Within better than expected full-year figures, those from Siemens Nixdorf Informationssysteme AG were nothing to cheer about. Losses came out at the equivalent of \$247m, down from \$303m, but sales slipped 8.5% to \$7,032m - a rather worse decline than IBM Corp has suffered thus far, and orders in hand at the end of the year pointed to continuing deterioration - they were off 7% at \$7,090m. "Earnings of the leading divisions were burdened by weak capacity utilisation as well as restructuring measures," it said. "On the other hand we were able to achieve higher financial earnings due to favourable capital market conditions," the company said. Incoming orders overall were off 1.5% at \$49,700m. Group research & development was marginally up at \$4,549m and employment fell to 391,000 from 413,000 - which despite the much larger manufacturing component in Siemens' business still seems extremely high for a company with sales only four-fifths those of IBM Corp. Domestic employment fell to 238,000 from 253,000, international to 153,000 from 160,000. The ravaged state of the German market is underlined by the fact that while international orders at the end of the year were up 2.2% on a year ago, German orders were down 5.7%.

BUSINESS OBJECTS PRESENTS NEW PRODUCT AND OPENS GERMAN OFFICE

Relational database access tool maker Business Objects SA is to launch version 3 of BusinessObjects on November 10 in Europe and the US. Already based on a client-server architecture, the new version features new client modules designed to provide easier navigation between applications for the user who is unacquainted with SQL command structures. It also provides improvements to other existing functions. The company has also opened an office in Cologne, Germany, which is now the firm's second direct subsidiary after the UK. Business Objects, which expects to earn two-thirds of its 1993 revenues abroad, also opened a sixth US office in Boston.

Business Objects shows version 3.0

New WYSIWYG report writing capabilities, the graphical user interface-based BusinessAnalyzer tool and enlarged database support are the highlights of the new Version 3.0 of Business Objects SA's product of the same name, which it plans to introduce first in France and later in the month in the US. With BusinessObjects 3.0, WYISWYG report writer modifications can be performed right on the data, making results immediately visible. New features have also been added, including support for Microsoft OLE 1.0, images, colour, patterns, full text wrapping and cell height manipulation and justification. Two new layout features - fold, unfold and multiple panes - have also been added to alternatively see summary and detail level data and to divide the report window into two or three panes. Version 3.0 also provides a new software engineering Access feature, enabling the manager to define the end user's data representation automatically by taking existing data knowledge found in data dictionaries, software engineering tools and application generators. Initially, it will support Oracle CASE, Bachman and KnowledgeWare. For the future, the company is talking to Texas Instruments Inc about supporting Information Engineering Workbench, says president Bernard Liautaud, adding that "in any case, it can be rewritten for another software engineering product in a week." The new version also provides support for Microsoft Corp's Open Database Connectivity protocol. The company says Open Database Connectivity support won't replace support for native interfaces. "There are two reasons for Open Database Connectivity support: you have to have it even if the user won't use it, because everyone has it and you need it for access to data you can't get to otherwise. There are still lots of copies of dBase out there on personal computers," says Liautaud. According to the company, BusinessAnalyzer uses client-server techniques to provide BusinessObjects users with matrix and cross-tab reporting functionality within the WYSIWYG report writer. "The difference compared with other tools that create matrices is that BusinessAnalyzer goes to the server for the data, not to a locally created database on a personal computer," says Liautaud.

Sells mostly direct

Version 3.0 should be available before the end of the year in France. Details on its release in the US were not yet available. The company still sells mostly the Windows version of its product, but, says Liautaud, "lots of our clients want to do their reports in Windows, but store them and retrieve the data from Unix terminals." Although Business Objects sells mostly direct, it plans to enlarge its indirect sales channels with "database value added resellers who develop applications and whose clients want access to data with the package," he said. The company plans to launch its activity in Asia in the first quarter of 1994, largely in Japan and Australia. Business Objects, which has six offices in the US, one in Germany and one in the UK, reported 1992 revenues of \$5m and anticipates to more than double that, to \$11m this year. At the end of August, the company had registered revenues of \$8.23m.

EXABYTE HAS TAPE DRIVES, LIBRARIES FOR 8mm, 4mm, MINICARTRIDGE

In what it describes as "the most comprehensive unveiling of products in its eight-year history", Exabyte Corp, Boulder, Colorado, has brought forth nine new products - new tape drives and libraries for 8mm, 4mm and quarter-inch minicartridge media. The Mammoth 8mm Cartridge Tape Subsystem can store 20Gb of data at 3M-bytes per second, before compression, four times better than its existing offering and with search speeds five times faster. Availability is scheduled for the current quarter at a price expected to be less than twice that of the current EXB-8505 8mm Cartridge Tape Subsystem. There are three new 4mm drives: the EXB-4404 which holds 4Gb of uncompressed data and has a transfer rate of 410K-bytes per second; and the EXB-4402 and EXB-4402c, with native capacity and transfer rate of 4G-bytes and 233K-bytes per second, respectively. The EXB-4404 and EXB-4402c offer data compression. The new quarter-inch subsystem - the EXB-2502 - more than doubles the capacity of the existing EXB-2501, though the company says that it will continue to sell the older model. General availability of the EXB-2502 will be in second quarter 1994, with an OEM price of between \$475 and \$550 in quantities of 1,000. A version with built-in hardware compression is expected soon after. There are three new 8mm tape libraries (the EXB-210, EXB-440 and EXB-480) and Exabyte enters the 4mm library market with the EXB-218. Depending on architecture, the 8mm libraries incorporate from two to four 8mm half-height drives and from 10 to 80 8mm data cartridges. Both the EXB-440 and EXB-480 will be available in the third quarter of 1994. The EXB-440 library is expected to have an end-user price of between \$40,000 and \$60,000. The anticipated end-user price of the EXB-480 with drivers and software is between \$60,000 and \$100,000. Prices for both libraries will vary depending on the configuration and software. The EXB-218 combines two 4mm drives and 18 4mm data cartridges to provide storage for up to 144Gb of data.

ROUND UP

Advanced RISC Machines Ltd of Cambridge has launched its new ARM700 low-power RISC, concentrating on improving the MIPS-per-Watt figure rather than achieving the best possible raw performance, something that's important for the Personal Digital Assistant market. There are three offerings for the embedded application market - the straight ARM7 core, the ARM7D, which includes support for Advanced RISC's new BlackICE and ICEbreaker debugging software and the ARM7DM which adds a signal processor multiplier onto the package.

NCR Corp has cut prices up to 28% on its 3360 Panther, which it reckons was the first dual Pentium box: a dual with 60MHz processors, internal SCSI-II, keyboard, synchronous mouse, MS-DOS 6.0 and Windows 3.1 is now \$8,000; a single Pentium box in like configuration is \$6,000.

Zenith Data Systems is to become the first major company to pre-load Novell Inc's Novell DOS 7 on a product line when it launches a line of Personal Servers with the MS-DOS-compatible operating system in January, the *Financial Times* said.

According to **Dell Computer Corp** chief technology officer Glen Henry there is "little hope for Unix - it won't continue to grow". Dell, says Henry "was proud of its Unix V.4 implementation, but it was just a distraction". Dell still sells on machines with SCO Unix, but no longer has its own Unix.

There's talk of further layoffs starting before Christmas at **DEC**. It's said they want to cut another 10,000.

Legato Systems Inc's NetWorker backup and recovery software is now available to SCO Unix system users: list price is \$1,500, with an advanced version available for \$3,000. An additional 10 copies of either product cost \$750, and an additional 50 copies costs \$2,750.

Hewlett-Packard Co says that its new multi-processor HP9000 T500 corporate business server (UX No 460) has chalked up the highest TPC-C performance rating yet achieved. Running Informix-OnLine on six processors, the box went at 2,110.5 transactions per minute (tpmC) with a cost performance of \$2.115 per tpmC, over double the best of previous results, said HP.

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Veritas Software Corp has filed to go public with an initial offering of 1.175m shares of stock expected to go for between \$12 and \$14 a share. Certain of its shareholders are offering 125,000 shares out of the total.

NetLabs Inc has changed the name of its network management platform line to DiMons, an acronym pronounced like diamonds that stands for Distributed Management of Networks and Systems. The company's two-year-old NetLabs/Manager will be called NetLabs/DiMons and its third-generation platform introduced earlier this year as LetLabs/Overlord will be called NetLabs/DiMons 3G. The renaming was prompted by trademark issues. Overlord was owned by another firm.

Judith Hurwitz has turned over her multimedia-oriented *Media Letter* newsletter, which she herself had acquired, to the industry's own Pamela Gray who will publish it as part of the **Winta Group**. Gray of course is the former president of the UK-based consultancy Marosi Ltd and founder of **Sphinx**, the world's first Unix applications distributor. She now can be reached in Massachusetts at +1 617 926-2134.

Rosh Intelligent Systems Inc has changed its name to ServiceSoft Corporation and its product line from CAIS to Service Power.

A couple of weeks ago (UX No 459), we said **Eastman Kodak** and **Adobe Systems** would be reselling the Sparcstation 10SX. They're simply providing software.

The 1994 Unix Reseller Show & Conference will be held April 18-21 at the Dallas Convention Center with the exhibits open April 19-21. Charles Wang, head of **Computer Associates**, and Phillip White, head of **Informix Software Inc**, will keynote.

Five working days into his new job at **Spectrum Information Technologies** and John Sculley, late of **Apple Computer**, is already flexing his muscle. The company's founder and the two executives in charge of marketing and investor relations have hit the pavement and the company has also settled the class-action suit lodged against it by shareholders.

After four months in the job, **IBM's** chief strategist Bernard Puckett has beat a sudden hasty retreat to be replaced by Jim Cannavino who lost all the important rounds to Microsoft. CEO Lou Gerstner is believed to want to hasten the rate of change inside IBM.

It turns out the start-up former **Unix System Labs** president Roel Pieper could have headed up rather than go to **Ungermann-Bass** was **Montage Software Inc**. Montage, meanwhile, styling itself as an object-relational database company, has cut deals with **Uniface**, **Unify** and **Liant Software**. The Uniface development environment will be integrated with Montage's software. Unify will support it and Montage will use Liant's C++/Views 3.0 multi-platform development tools to help build its next generation software.

IBM Corp duly previewed its System/390 parallel and Power RISC-based Powerparallel computers last week, but the company's announcement was devoid of content beyond saying that the first two mainframe offerings will be the S/390 Parallel Query Server and Parallel Transaction Server, that they will be launched in the first half of 1994 - that has slipped from the first quarter, so it sounds as if they won't ship before the fourth quarter next year, putting them a year behind schedule. IBM also said it plans an entire mainframe family based on microprocessor technology sometime after 1995, but all the signs are that the effort is an incredibly rushed programme only given the go-ahead shortly before Jack Kuehler revealed its existence. The company declined to specify pricing at this time, which only adds to the suspicion that the machines are no more than cardboard replicas of what the company plans.

Securities & Exchange Commission investigators are probing whether **Kendall Square Research Corp** may have violated US securities laws by issuing false or misleading reports by booking revenue prematurely, the *Wall Street Journal* said. The company has warned that its third quarter revenue will be lower than expected and that it would report a loss, but it hasn't published figures. Meanwhile, the first two customers for Kendall Square Research Inc's KSR2 massively parallel machines are the Theory Center at Cornell University, and Leibnitz-Rechenzentrum, part of the Bavarian Institute of Science in Munich, which wants a KSR2-110.

IBM Corp is expected to start delivering early versions of its OMG CORBA-compliant DSOM Distributed System Object Model (DSOM) and System Object Model (SOM), in the first quarter of next year on its operating systems, databases and software development tools. The two are due up on AIX, Workplace Shell, OS/2, OS/400 and MVS. A SOM 2 toolkit, running on object frameworks and OSF DCE has been available since August on stand alone and LAN-based AIX and OS/2 systems - a distributed version is due in 1994.

Tatung Science & Technology Inc says it is now shipping its 50MHz, dual-SuperSparc-based Super CompStation 10 Model 51-2 at \$25,265 with a 19" colour screen, 64Mb RAM, 1Gb disk, GX graphics, floppy drive, two Mbus four Sbus slots.

A US federal judge has advanced Dr Roger Billings and the International Academy of Science's suit against **Novell Inc** which alleges that NetWare infringes a patent they hold on a key client/server concept, by denying a Novell motion that would have declared the patent invalid.

IBM Corp has tapped William Johnson from **Digital Equipment Corp** as manager of the newly-formed Networking Hardware, under Ellen Hancock; and Stanley Litow is has been appointed its new director of corporate support programmes; he had been deputy chancellor of the New York City public school system IBM said.

To whom it may concern... according to benchmarking tests undertaken by **Oracle Corp** and **Digital Equipment Corp**, Oracle7 under OSF/1 runs at 94.43 tps-A client-server, working out at \$7,466/tps-A, on an Alpha 2000 model 300; 172.16 tps-A client-server, or \$6,390 per tps-A, on an Alpha 3000 model 600S; and 186.02 tps-A client-server, or \$6,810/tps-A, on an Alpha 3000 model 800S; Oracle7, under OpenVMS, on an Alpha 7000 model 660 runs at 1,079.07 tps-A client-server, or \$5,905/tps-A; and at 110.09 tps-A client-server for a tag of \$6,958 per tps-A on an Alpha 2000-300.

Object Design Inc has formed **Object Design France** in Paris to provide marketing, sales and technical support for the ObjectStore object database to commercial accounts in France; earlier this year, Object Design established **Object Design (UK) Ltd** in London, and **Object Design GmbH** in Wiesbaden, Germany; international sales represented 30% of Object Design's revenues in calendar 1992 and looks for that to grow to 50% by 1995, 30% in Europe.

Pyramid Technology Corp has put a version of **Novell Inc's** NetWare for Unix network operating system up on its multiprocessing systems. Pyramid has added SMP extensions and says the resulting implementation - Pyramid NetWare SMP - will allow users to tie Novell networks in with their high-end Unix systems. Running as an application under Pyramid's Data Center/OSx operating system, it costs from \$9,000 for up to 32 users and \$20,000 for 256 users.

Apple Computer Inc says it has now passed the million mark on its PowerBook notebook computer line.

Mountain View, California-based X-terminal pioneer **Network Computing Devices Inc** has won a worldwide purchasing agreement from **Siemens AG** under which any Siemens department can buy X terminals and software products through Siemens ANL Germany or Siemens International Procurement Services Sunnyvale. The agreement, which was signed with the latter organisation, is valued at \$2m annually; the terminals will be for internal Siemens use and for marketing to customers.

Convex Computer Corp will this Tuesday unveil what it reckons is the first software system that'll let users run desktop and supercomputing applications on a parallel platform: SPP Software Environment will come with development tools and other facilities for use on Convex's parallel systems. Thus far there has been no massively parallel machine that is hardware and software compatible with a big existing applications base.

With all this talk of unifying Unix, **IBM Corp's** Personal Systems Division in Somers, New York appears to concede that AIX isn't real Unix - and suggests Solaris isn't, either: in announcing the PowerPC Reference Platform, it notes that someday, under PowerOpen, it will offer Macintosh applications support and lists major 32-bit operating systems being implemented for it as AIX and Workplace OS, Windows NT, Solaris and Taligent, saying "through these operating systems and their compatibility technologies, the PowerPC Reference Platform will support OS/2, AIX, DOS, Windows, Win32, Unix and Taligent.

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HP, IBM AND DEC TAKE NETWORK MANAGEMENT TO NT

In two separate announcements, Hewlett-Packard Co, and then IBM Corp and DEC, last week said they would, as expected, port their closely-related Unix network management environments to Microsoft Corp's Windows NT. The three also plan to integrate Microsoft's forthcoming Hermes system for managing personal computers into their network management software, thereby combining many network and systems management functions. Indeed, HP believes PCs are "the least managed devices on the network," but "people want to do systems management from there." Sun Microsystems Inc, which has its own network management ticket, looks like being the net loser in this joining of network management minds. HP plans an enhanced version of its existing OpenView for Windows package by mid-1994 that supports Microsoft's Windows Open Services Architecture, and a single OpenView architecture for Windows, NT and Unix by the end of next year. NT includes an SNMP agent that allows OpenView to manage NT nodes. OpenView for Windows runs on the client and can be managed by Unix-based HP OpenView systems. New enhancements will enable event-forwarding and passing of alarm conditions between OpenView-based Windows, NT and Unix consoles. Network Node Manager-type functionality, HP says, will allow developers to move OpenView Windows applications to OpenView NT. By the end of next year, OpenView in all of its guises will include a common repository for all management information that will provide a single network topology. HP will take OpenView for Windows (until now an OEM product) and OpenView for NT through some 12,000 PC LAN resellers next year, and is currently compiling a new distributor-authorized reseller channel that will carry OpenView for Unix from early next year. IBM and DEC are doing pretty much the same, saying they'll put NetView/6000 and Polycenter respectively up on NT and bring PC management, via Hermes, into their network management solutions. IBM and DEC joined forces on network management earlier this year when DEC decided to adopt NetView as its own product - Polycenter - which in turn is based on parts of HP's OpenView (Network Node Manager and Network Management server) that IBM licensed back in 1991. IBM and DEC say future implementations will be released simultaneously and derive from the same source code: DEC says it'll provide a path up to Polycenter for DECmcc users. Observers say the announcements give NT Advanced Server just that bit more legitimacy, given that users aren't going to deploy it in any quantity until next year, when certain key server elements become available.

SCO MOVES INTO REAL-TIME WITH CHORUS-BASED FUSION PRODUCT

The Santa Cruz Operation Inc is today (Monday) set to announce its first microkernel architecture operating system in conjunction with French software house Chorus Systemes SA - the result of last year's agreement between the two back in September 1992 (UX No 403). Chorus/Fusion for SCO will not replace current SCO Unix implementations, but will extend the company's product set towards complex real-time systems, embedded systems, high availability and clustered applications. It remains binary compatible with SCO Unix, allowing existing applications to be run, but expands the applications programming interface to include Posix real-time and thread extensions. There are three components. Chorus/Fusion Real-Time SCO Open Server, supports standard SCO binaries, real-time extensions, transparent kernel-to-kernel connectivity, TCP/IP interoperability protocols and X-Window server and clients. The Real-Time Node supports dedicated Posix 1003.1 b/c-based real-time processes, cooperating with other real-time processes and/or standard SCO applications on other nodes and servers. The Development System combines a server with five nodes, a C development system and Chorus debugging tools. Avionics, telecomms, point of sale and medical applications are highlighted as particularly suitable for the new technology, which should be able to handle complex distributed applications that link embedded real-time tasks with corporate computing centres. Currently in beta, Chorus/Fusion for SCO should be generally available by January. Prices depend on volume, but are typically \$29,950 for the development system, \$1,118 for the Real-Time Server run-time (quantities of 10), and \$400 for the Real-Time Node run-time (quantities of 100). SCO did not indicate whether the Chorus kernel would eventually be used to underpin its mainstream Unix operating system line.

SUNSOFT NEAR TO HARMONISING SOLARIS FOR SPARC/ INTEL

Releases of SunSoft Inc's Solaris operating system for Sparc and Intel Corp iAPX-86 architectures, currently staggered with the Intel variant produced out of Sparc source code, will be synchronised by the middle of next year, with Solaris 2.4 released simultaneously for both CPU environments. (UX No 433). Apparently, a merged source code implementation was successfully achieved last month. The group is also understood to be preparing a cut-down version of Solaris for the nomadic workstation currently known as Gypsy, which is expected next February (UX No 461), though it's not inconceivable that it could use the Tadpole Technology Plc implementation featured on that firm's SparcBook notebooks. *Sun news, page 2.*

PYRAMID READIES BINARY-COMPATIBLE PARALLEL "MESHINE"

Current interest in the application of massively parallel processing technologies for commercial use, as opposed to more traditional scientific and academic number-crunching, has prompted Pyramid Technology Corp to set out its own massively parallel (MPP) stall. The San Jose, California-based firm - which disclosed back in July its intent to develop a parallel system (UX No 446) - says it'll have a machine with up to 256 Mips Technologies Inc R4400 RISCs running a parallelised version of its Unix SVR4 implementation out by October 1994. Its aims to coincide with the release of Sybase Inc Navigation Server and other parallel-enabled relational database technologies from the likes of Informix Inc and Oracle Corp. The system is codenamed Meshine, after the mesh-type bus interconnect technology it employs. It's a mechanism also used by ICL Plc and other parallel hopefuls, although Pyramid's vice president of development, Tom Hildebrand, is keen to stress that the bus itself is Pyramid's own creation. ICL's Goldrush parallel system uses a DeltaBus interconnect developed by Siemens Nixdorf Informationssysteme AG (SNI) - the UK firm is building other Sparc-based servers using Pyramid's existing symmetric bus technology - while SNI and Pyramid are working on unspecified features of Meshine. Hildebrand said Pyramid chose a mesh-type interconnect over switching and hypercube techniques because it provides the highest performance opportunities for commercial processing tasks. The advantage of Meshine - which Pyramid insists is massively scalable, rather than massively parallel technology - over other offerings is its use of "an identical" version of the firm's SVR4 Unix implementation optimised for parallel processing. Not only will Meshine pick up from where Pyramid's top-end, 16 CPU R4400-based Nile system leaves off, but the lines are binary compatible, it claims. Hildebrand believes Pyramid's ability to offer a standard operating system on a parallel architecture with features like high availability, will give the firm a headstart on other solutions coming to market. Although it apparently has kit which comes close to a top-end Nile configuration with 16 CPUs and 4Gb memory, Hildebrand says it has customers who are ready to use whatever Meshine can deliver, and already has versions up and running in beta form. Meshine will scale upwards over time, and will also be offered with a clustering solution. Hildebrand says Pyramid itself is best disposed to developing the high-end parallel Unix features it requires as any other effort, including Unix Systems Labs' own parallel Unix project, is still some way off.

SUNSOFT PRESSES ON WITH OEM CAMPAIGN

With Amdahl Corp now riding the Sun Microsystems Inc OEM bandwagon - it has already shipped SparcCenter 2000s running Solaris - SunSoft is pressing on with its encirclement of the Fujitsu Ltd camp. Vice president of product marketing, Jim Billmaier, believes that with some 80% of the Japanese firm's Unix effort now tied up in systems running Solaris, it "is becoming their [Fujitsu's] strategic operating system." A deal for Solaris x86, he admits, has yet to be signed, but he indicated that such an agreement might not be far off. Fujitsu's ICL Plc sibling is a known object of SunSoft's desire in this latest trawl for OEM customers, but the UK company, which manufactures its own Sparc-based servers, has proved unwilling, so far, to play ball, insisting that Novell Inc's UnixWare is its chosen path (UX Nos 454, 456). ICL insists that Fujitsu too, is committed to the SVR4 brand of Unix now owned by Novell, and that it is working, in conjunction with its Japanese parent, to extend the functionality of SVR4.2 on the Sparc CPU. Billmaier said he "couldn't imagine" why any firm would want to put UnixWare up on Sparc and didn't know "why they [ICL] were doing it," suggesting that further discussions between Fujitsu, ICL and itself are required. The picture is further complicated by an arrangement between Amdahl, ICL and Fujitsu to develop a common Unix application environment for their respective Sparc architectures. This was signed before Amdahl went over to Solaris. SunSoft maintains Amdahl was to have led the operating system arm of that effort, the future of which now seems somewhat unclear given Amdahl's conversion to Solaris and its commitment to co-developing mainframe functionality for it in conjunction with SunSoft. Where vendors can go for their future high-end Unix requirements is a question that only SunSoft seems able to answer at the moment.

...WINS UNISYS FOR SOLARIS x86

SunSoft Inc has snared another OEM for its Solaris x86 implementation of Unix for Intel Corp iAPX-86 systems in the form of Unisys Corp. The Bluebell, Pennsylvania-based firm will offer Solaris alongside Unix SVR4, UnixWare and the other variants it offers on its U 6000 series 80486 and Pentium systems, initially the U6000/DT desktop and the uniprocessor 100 and 300 models. The desktop version of Solaris starts at \$800, the workgroup server version at \$2,000. SunSoft claims to have shipped 15,000 licences in the four and a half months that Solaris x86 has been shipping.

...HEDGES PC COMPATIBILITY BETS WITH LOCUS MERGE

SunSoft Inc has cut a deal with Locus Computing Corp for the Inglewood, California firm's Merge PC Windows- and MS-DOS-under-Unix environment which it will offer to Solaris x86 and Interactive Unix users. SunSoft's move looks ostensibly like a snub to its SunSelect cousin's Wabi Windows-under-Unix system, which SunSoft is bundling with Solaris for Sparc and Solaris x86. However, while SunSoft vice president of marketing, Jim Billmaier, agrees there is some overlap between the two - both run Windows 3.1 applications - he argues they are complimentary, as Merge also supports MS-DOS and DR DOS as well as DOS VGA applications in full screen mode. The difference between them is that Merge actually runs Windows and DOS, while the X Windows-based Wabi does not. SunSoft is shipping Wabi with Solaris until the end of December and will only then decide whether to offer the system bundled or unbundled with its operating system.

SEAGATE AND SUN UNVEIL SINGLE CONNECTOR ATTACHMENT FOR SCSI

Seagate Technology Inc is now shipping disc drive families in volume quantities that incorporate the Single Connector Attachment for SCSI disk drives it jointly developed with Sun Microsystems Inc. The Attachment incorporates all disc functionality and configurations into a single point of connection, the aim being to reduce drive integration costs, improve overall system reliability by eliminating the need for multiple cables and drive configuration settings, and simplify drive connection to the system interface. The product is targeted at disc array and server applications, which require multiple drives. The Single Connector Attachment uses a standard AMP connector and is available now on such Seagate disc drive products as the ST3610NC, the ST31200NC, and the ST12400NC-2. Seagate says that Sun and

BCP MODULE SHOULD GET MOST SPARC APPLICATIONS UP ON SOLARIS 2.3

Getting users up from previous operating system releases to the current product has been a long haul for SunSoft. The binary compatibility package (BCP) it is now bundling with the latest Solaris 2.3 release - shipping since the beginning of the month - means most of the 8,500-odd applications up on Solaris 1.x (SunOS 4.1) should now run under the SVID 3-compatible Solaris 2.x releases without modification. Back in July, SunSoft had managed to sell only 250,000 Solaris 2 licences - most of which were shipped as part of Sparcstation and server orders, not as upgrades - indeed it was even forced to retrofit Solaris 1.1 on its SparcClassic workstations. At that time, just 350 applications had been ported and were running native on Solaris 2.0. Jim Billmaier says 100,000 Solaris 2.0 licences have been added since then and 1,300 applications have now been ported across and are running natively. The majority of the other 7,000-odd claimed to be available for Sparc should now run unchanged, he says. The problem, it appears, is that SunSoft erroneously believed most application developers were using dynamic links to libraries, not static links, and so didn't include support for static bindings in Solaris 2.0. The BCP is designed to fix that, providing support for static linking, and ensures, says Billmaier, that any application developed for Sparc will run on Solaris 2.x, as long as it observes application development guidelines laid down for Sparc. That means it must not make, for example, unrecognised system calls or write system files to the kernel. The problem, one source says, is that some of the popular Sparc applications do just that.

WABI VERSION 2 BY SECOND QUARTER 1994

Version 2.0 of SunSelect's Wabi Windows-under-Unix emulation software, which is expected to address most of the problems associated with the initial version, will be released at the end of the second quarter of next year. Version 1.0, shipping to OEMs since August, requires certain Microsoft Corp Windows code modules to run Borland Quattro Pro 1.0 and Microsoft Powerpoint 3.0, including Dynamically Linked Libraries and Object Linking and Embedding. Eleven other applications do not require Windows 3.1 at all, though Wabi doesn't support stuff like Windows Help and doesn't come with a File Manager or Minesweeper. It doesn't, and wasn't intended, to run MS-DOS applications. Wabi is a binary run-time application programming interface-level Windows translator, with an Intel Corp iAPX-86 emulator kicking-in where necessary - not a copy or a complete replacement for it. SunSelect, which has emphasised the importance of not needing a Microsoft Windows licence, says version 2.0 will come with DLL emulation and be compatible with Novell Inc's NetWare - this will enable users to access files and disks - NetBios, WinSock and WinHelp. A 32-bit version of Wabi will also debut next year, along with a multimedia subset that's under development too.

SUN ROUNDUP

SunConnect is expected to announce by the end of the year that NetLabs Inc's DiMONS 3G object-oriented network and systems management software will form the core of its next version of SunNet Manager. The first products should be released in the second half of 1994, and will be compatible with the current Solaris-based offering.

Sun's secretive new subsidiary, FirstPerson Inc, is believed to have a consumer electronics operating system up its sleeve that is suitable for interactive television and digital multimedia entertainment services. FirstPerson's development efforts are so far thought to encompass an object-oriented distributed operating system, based on a real-time microkernel with light-weight threads and fast context switches, an object language, run-time package and interpreter.

According to US sources, Sun satellite SunPro is developing an object-oriented application development tool, code-named Helix, which will provide both Open Look and Motif graphical user interface building functions and database connectivity. The product, which will apparently only run on SparcStations, has been demonstrated at a number of internal marketing meetings.

Don Taylor, Sun's director of marketing, Northern Europe, has resigned to move on elsewhere in the industry, possibly Oracle: he will remain at the company until next month, no word on a replacement.

Sun has cut prices on its low-end SparcClassic workstations and SparcStation LX graphics workstations in Japan by 19% and 17% respectively.

CONSENSYS UNITES UNIX AND NT

At Comdex last week, Toronto, Canada-based Consensus Corp announced the availability of Unite - which it claims is a direct port of the Unix SVR4.0 source code to Microsoft Windows NT, in versions for Intel Corp, DEC Alpha and MIPS processors. Unite brings over 100 Unix commands, including yacc, lex, make and the Korn and Berkeley shells, over to NT - they can be run from the NT shell and NT commands can be run from the Unix shell. The Windows interface is used (that's why it's SVR4.0 and not SVR4.2), with a dialog-box interface for each Unix command. On-line manuals are available as Windows Help. Consensus sales director Vas Rajevski said the target market for Unite was companies migrating Unix software to Windows NT, and Unix programmers developing for NT. It's ready now, costing \$395 for the base system, \$495 for development tools, \$695 for both base and development. Alpha and MIPS prices are \$100 more.

DEC SIGNS FOR LIKEN ON ALPHA

Now that Andataco Inc, San Diego has wrapped up acquisition of Liken developer Xcelerated Systems Inc, Digital Equipment Corp has gone to Andataco and asked it to build a version of its Liken software for the Alpha. DEC sees Liken, which emulates the Macintosh environment under Unix, as a short cut to expanding the applications base for its version of Unix. Liken for AXP should be ready by the second quarter of 1994, and will cost \$300 for a single-user fixed licence.

APPLE'S POWERPC DEVELOPERS TOOLKIT NOW AVAILABLE

Apple Computer Inc, still trying to encourage developers to write native applications for its PowerPC-based Macintoshes, is now said to have passed on a limited number of software development kits to users with prototype hardware. According to US reports, beta versions of the Macintosh on RISC Software Development Kit are now available from APDA, Apple's own source for development tools. Apple says it expects to release at least two tool upgrades between now and when the first PowerPC-based Macintoshes are introduced in March. Further upgrades will follow every subsequent quarter. The APDA development kit comprises tools for Apple's Macintosh Programmers Workshop environment, a MacApp application framework as well as a PowerPC-ready assembler, a C++ compiler, and a debugger. So far, it is believed that less than two dozen vendors have committed to providing native applications for PowerPC-based Macintoshes - embarrassing since Apple plans to announce them in January.

THUMBS UP FOR INSIGNIA'S SOFTWINDOWS

MacWeek reckons that Insignia Solutions Ltd's SoftWindows is a winner. Although to date, only alpha versions of the software, running on alpha versions of Apple Computer Inc's PowerPC-based Macs (601s running at a mere 50MHz) have been demonstrated, it says they go at very respectable 25MHz 486 speeds - a level of performance that bodes well for the release version. A good PowerPC native-mode Windows implementation would seem enough to cement a warm relationship between Apple and Insignia, but this may not actually be the case. The trouble centres on the royalties Apple will have to pay Insignia, for the part it played in readying Houdini, the 486 PDS card on view last week at Comdex. Apparently, the enthusiasm of the marketing and engineering groups excelled that of the contract lawyers, who still haven't worked out the finer details.

IBM HAS POWERPC VISUAL SIMULATOR

IBM Corp's laboratory in Rochester, Minnesota, has developed an architectural and timing simulator to improve the productivity of programmers and engineers developing computer hardware, operating systems, and end user applications, based on PowerPC processors. The PowerPC Visual Simulator was created for IBM's internal use before any PowerPC hardware was actually developed, and the group claims it runs 10 times faster than simulators it has used previously. The product also includes an optional timer feature, which analyses the internal operation of a PowerPC chip and predicts program execution time - it can be configured to match a specific implementation. This costs an extra \$3,500 on top of a single user PowerPC Visual Simulator licence for \$6,000. The Simulator currently only supports the PowerPC 601, but support for the 603 will follow by year-end, and for the 604 and 620 in early 1994.

CONVEX PREVIEWES THE ENVIRONMENT FOR ITS PA-RISC PARALLEL EXEMPLAR

Convex Computer Corp's Precision Architecture RISC-based scalable parallel machine now has a name - Exemplar - and the company, and its Japanese partner, steelmaker NKK Corp have given a few more details on it. It will have up to 128 of the RISC processors, with a target peak performance of 25 GFLOPS, and is due for launch in the first quarter of next year. Convex has also been describing the Exemplar software environment, which it says features three components. The first component is a scalable operating system consisting of a distributed microkernel, binary compatibility with Hewlett-Packard Co's HP-UX Unix, and source code compatibility with existing Convex applications. The microkernel is an enhanced version of the Mach microkernel from the Open Software Foundation Research Institute and is designed to run highly parallel applications on a large number of processors. The layer providing binary compatibility with HP-UX enables "many" of the existing HP-UX applications to run on the Exemplar, including HP's middleware suite of standards-based libraries, commands and utilities that provide the programmer with HP-UX user interfaces and application compatibility. The second component is a multiple-instruction, multiple-data-based programming model using Global Shared Distributed Virtual Memory to provide a familiar single-system image of memory and enable the programmer use current high-level languages. The Exemplar's compilers will automatically parallelise standard Fortran 77, Fortran 90 extensions, C, C++, and mixed language source code and, combined with an interprocedural optimiser, will produce some of the most efficient parallel code possible on existing programs, the company claims. Existing Hewlett-Packard single-threaded binary modules can be intermixed with Exemplar multi-threaded modules in one application. The third component is a set of development and conversion tools - graphical debugger, performance analyser and trace analyser.

OBJECT MANAGEMENT GROUP STEPS UP PRESSURE ON MICROSOFT TO JOIN IN

There is growing speculation that the Object Management Group is stepping up its courtship of Microsoft Corp, with reports last week that Chris Stone, OMG president and CEO, and Paul Maritz, Microsoft senior vice president, had a private meeting at Comdex to discuss ways for Microsoft to play a more active role in the organisation. Apparently, the OMG is so eager to see Microsoft involved that it has brought forward its development of a compound document specification in the hope that Microsoft will submit parts of its OLE 2.0 technology. Specifications for compound documents were originally slated for development late next year. But, sources say Microsoft is unlikely deal directly with the OMG. It is more likely to align itself with a third party, the main contenders being DEC via Microsoft's Alpha/Windows NT relationship or its deal with IBM to port NT to the PowerPC.

SPAG STANDARDS GROUP DISBANDS

Shareholders in the Standards Promotion and Application Group SA (SPAG) intend to disband the organisation and hope to move existing staff into "several other consortia addressing similar issues" - X/Open for one. SPAG is in discussions with various such organisations at the moment - although X/Open said it wasn't aware of being in dialogue with SPAG - and expects to announce which personnel will be transferred where within a month. The incorporated firm will remain intact as a legal entity for the time being as a "parking place" for SPAG's intellectual property rights, however - "the company will be terminated in a non-defined period of time", probably sometime in 1994, SPAG said. Its main product is the Process to Support Interoperability (PSI), which provides users with the necessary documentation to determine what common functionality any given Open Systems Interconnection products have, so as to reduce the risk of them not working together. SPAG was set up in 1985 by Digital Equipment Corp, Hewlett-Packard Co, IBM Corp, ICL Plc, Ing C Olivetti SpA, Informationssysteme AG, Compagnie des Machines Bull SA, British Telecommunications Plc, and Alactel NV. The decision to disband it has now been taken though, because, according to SPAG, PSI is sufficiently mature to warrant company expansion worldwide. But, as many of the shareholders are in "financial difficulties", they are not prepared to finance this move, preferring to take advantage of established outlets elsewhere. This is simply "a straightforward business decision", SPAG says.

GROUPE PROLOGUE SHIPS BETA VERSION OF ABAL++

Approximately 15 of Groupe Prologue S.A's software developer customers have discovered the world of object-oriented technology with version 2.0 of the Paris-based company's Abal++ development environment - as promised (UX No 454), Groupe Prologue began shipping a beta edition of the product to limited customers on November 1. But project manager for object-oriented technology Claude Roblez declares, Abal++ is not just a simple duplication of the C++ programming language. "We have been inspired by object-oriented technology in general, not just C++. Abal++ is another application of object-oriented concepts with a different syntax [than C++]." Nonetheless he said, the product contains a mechanism, which enables its applications to communicate with others, including those developed in C++. Prologue's third-party developers, which the company trained before shipping the product, are converting only certain application modules into objects, however. Abal++ currently runs under Santa Cruz Operation Inc's Unix, Prologue and Novell Inc's NetWare, director of marketing, Annik Bonnefemme-Harmand said. But she added, "We are the only ones developing under NT because there still aren't many systems houses who are using NT to develop management systems". Production versions of Abal++ are scheduled for release in mid-February at the Forum PC show in Paris.

WYSE UNVEILS LATEST MIPS X TERMS, NEW NEW SERVERS ON STARTING BLOCK...

Wyse Technology Inc has now introduced its new line of Mips Technologies Inc R3000-based X terminals as the WX series (UX No 461). There are five models, three colour and two monochrome, each offering 100,000 Xstones performance, 1,280 x 1,024 resolution and up to 64Mb RAM. Prices go from \$2,100 for a 17" monochrome model and \$2,400 for the 19" monochrome display, to \$2,400, \$3,500 and \$4,000 respectively for 15", 17" and 19" colour variants. Wyse's 19" colour model is cheaper than similar products from rivals such as DEC, Hewlett-Packard Co, Tektronix Inc, Japan Computer Corp and Network Computing Devices Inc - if less powerful in most instances - but more expensive than comparable Human Designed Systems Inc and Samsung's Phase X Systems units. Wyse will continue to upgrade its Intel Corp 80486 line of multiprocessing servers to Pentium and add new configurations along the way. An eight-way fault-tolerant system is under development alongside those already expected. These include the uniprocessor, sub-\$10,000 Jedi and the \$20,000 one-to-four CPU Saratoga; plus PT24-upgradable 486SX-based Roadrunner, Pentium-upgradable 486SX-based Saturn and Pentium-based Baby Jedi client. Due in the next few weeks, they will be bundled with its version of Unix SVR4, SCO Unix or Windows NT, with NetWare, UnixWare and Solaris options. No UK pricing.

...AS LINK TECHNOLOGIES DEBUTS THREE NEW X TERMINALS

Fremont, California-based Link Technologies Inc, a sister company to Wyse, has added three new Mips Technologies Inc R3000 IDT3051-based X-terminals to its existing line. The new LX series has expandable memory subsystems with up to 64Mb of RAM and 10Mb of Flash EPROM, which means users can store local client and screen fonts. The entry-level LX3200 is monochrome, comes with 4Mb of RAM, .5Mb of VRAM, and resolution of 1,280 by 1,024. It has an XStone rating of 110K running at 25MHz and costs \$2,100 for a 17" monitor version, \$2,400 for an 19" version. The LX3400 and LX3600 support 256 colours and have an XStone rating of 100K running at 40MHz. They also sport an 8bit audio interface for use with clients supporting Multimedia X, which means users can record analogue data via an input connector. The midrange LX3400 has 4Mb of RAM, 1Mb of VRAM, and a resolution of 1,024 by 768. It costs \$2,400 for a 15" monitor version and \$3,105 for a 17" version. Finally, the high-end LX3600 comes with 4Mb of RAM, 2Mb of VRAM, and has 1,280 by 1,024 resolutions. It costs \$3,500 for a 17" monitor version and \$4,000 for a 19" version.

TADPOLE ACHIEVES PROFIT IN ITS MAIDEN FULL-YEAR REPORT - POWER PC PREVIEW

Manufacturer of RISC-based notebook computers and system boards, Tadpole Technology Plc, has turned in year-end pre-tax profits of £749,000, and expects to raise additional capital during 1994 to fund further growth. In the last four years it has been profitable only once before - in the nine months to September 1991 - but now, with both its Sparcbook portables and traditional OEM board business doing well, the Cambridge-based company is on a roll. But it is saying nothing about the timing, magnitude or method of the capital-raising exercises yet. Chairman Richard King says current cash and facilities are sufficient for the next year, but that he expects to attract investment from both existing and new shareholders. The proposed US listing is still on track, but group chief executive George Grey was unable to say whether US investors would see a separate share issue, or whether existing stock would be traded on the new market. Though Sparcbooks sold well, Tadpole says figures would have been even better if it hadn't had problems getting hold of enough 500Mb disks. The 500Mb Sparcbook 2 was due for launch at the beginning of the year, but the firm's un-named disk supplier failed to deliver, so the machines weren't released until the middle of the year. The supplier has now been junked in favour of Toshiba Corp, says Grey, and the vast majority of Sparcbook 2s being sold are now 500Mb models. Next year should see another revenue stream open on the notebook side when IBM Corp begins to ship the PowerPC-based portables that Tadpole is designing. The machine was displayed at last week's Comdex, though it has yet to be officially announced by IBM. There is no word on when it will be launched, but Grey says that it should be early enough to contribute materially to next year's figures. Meanwhile, the OEM board side did better than anticipated, due to unexpected sales of the company's older products. Still, there has been something of a hiatus in the flow of new products to the OEM business, although this is being fixed, and the new TP 91 Sparc-based embedded controller board is promising, says Grey. Overall however, OEM sales are expected to remain flat through 1994, before new products kick in 1995.

MASPAR ADDS HIPPI CLUSTER FEATURE

Sunnyvale, California-based MasPar Computer Corp has launched a HiPPI High-Performance Parallel Interface input-output controller for its MP-1 and MP-2 massively parallel machines, and using it, showed a cluster of MP-1s delivering up to 25 GFLOPS. The company reports that the capability was developed in part because the NASA Goddard Space Flight Center in Greenbelt, Maryland already has a 16,384-processor MP-1 and needed even more power. It demonstrated a computational fluid dynamics application on four clustered MP-2 2216 systems at Supercomputing '93 in Portland, Oregon, claiming 90% efficiency. The HiPPI controller is \$50,000, and MasPar says it has shipped 40.

EII OF FRANCE HAS ALPHA PCTE TOOLSET

French software engineering company, EII Software SA, and Digital Equipment France SA have agreed to make EII's Enterprise II package available on DEC's Alpha AXP systems in early 1994. The companies say work on implementing Enterprise II, which conforms to the PCTE Portable Common Tools Environment standard, is already under way. Under the agreement, EII, which is a joint venture of Thomson-CSF software and services company Syseca SA - 56% - Unix systems house Steria SA - 22% - and CR2A - 22% - will also offer other services on the Alpha AXP line.

EX-IBM EMPLOYEE SUES OVER SWAPPING SEX FOR FUNDING

A former IBM Corp marketing representative is suing the company and two of her supervisors, alleging they forced her to resume a sexual relationship with a senior Defense Department official whose attentions had been sufficiently unwelcome that she had moved to Los Angeles and IBM to escape them - in order to secure Advanced Research Projects Agency funding for the company. She alleges that managers at IBM pressed her to use her past relationship "to advance IBM interests and to find a way around the normal government procurement cycle". She says "in an act of desperation," she "went to bed with Dr Denman in exchange for his promise to get IBM into his funding channel," and the next day, talks began between Denman and IBM staff.

4TH DIMENSION DEBUTS FIRST DISTRIBUTED MANAGEMENT OFFERING

Tel Aviv, Israel-based 4th Dimension Software Ltd has released the first of its distributed systems management products, based on its new Enterprise Control Architecture (ECA). ECA comprises Enterprise ControlStation, which runs on Sun Microsystems Inc Sparc-based workstations running Solaris and IBM Corp's RS/6000s and provides users with a single, hardware-independent interface and a central point of control; and a "portable-platform base technology", which enables 4th Dimension products to run under a number of different hardware environments and operating systems. The first ECA-based product to materialise is MultiPlatform Control-M - Control-M has up till now only been available for MVS-based mainframes. MultiPlatform Control-M undertakes production control and automated job scheduling via the Enterprise ControlStation for Sun Sparc-based machines running Solaris, IBM RS/6000s and AS/400s, and Digital Equipment Corp's VAXs running VMS. It also enables a job or process running under one environment to trigger a different job or process in any other one supported by the software. During 1994, MultiPlatform Control-M support will be expanded to 40 hardware environments, including Novell Inc's Netware and Hewlett-Packard Co workstations. The product is shipping now, but no pricing was available. 4th Dimension also plans to release software dealing with security administration, output management, message availability and management, enterprise backup, removable tape management and data balancing and integrity during 1994.

NETSMITHS DEBUTS OBJECT TOOLKIT BASED ON IBM'S DRAGONS

Edison, New Jersey-based start-up Netsmiths Inc has issued a challenge to Centerline Software Inc and ParcPlace Systems Inc in the form of a new object-oriented application development environment, ObjectKit. It also has a new network management product, NetManager, in beta testing. Both products are based on IBM Corp's Distributed Reliable Architecture Governing Over Networks and Systems (DRAGONS), which the Open Software Foundation originally chose for its Distributed Management Environment, before rejecting it in favour of Tivoli Systems Inc's Tivoli Management Facility. ObjectKit enables developers to build distributed, high-availability applications with data replicated in objects stored on multiple servers. This means, if a given server goes down, an object replicated on another will immediately supply it with the lost information. The product comprises several application development tools, including a Motif-compliant interface builder, a debugger, an object browser, object library and NetSmith's Object Implementation Language (OIL). OIL can be compiled into either C++ or a binary program, but does not yet conform to the Object Management Group's Interface Definition Language. Still, NetSmith says, OIL will have an IDL front-end and Common Object Request Broker Architecture-compliant interfaces by Spring, with "the good stuff" underneath. ObjectKit will be available by year-end under Sun Microsystems Inc SunOS 4.1 and IBM Corp's AIX, and under Sun's Solaris 2.x, Hewlett-Packard Co's HP-UX and Microsoft Corp's Windows NT by January. The first copy will cost \$5,000, the second \$3,000, and \$1,000 for any after that. NetSmiths will also charge a run-time fee for any applications developed because it is using IBM technology. Although these fees have not yet been decided, they are expected to range from \$150 to \$500 per data engine. Furthermore, ObjectKit was used to build NetSmiths second product, NetManager. NetManager is a real-time distributed network management application. Like ObjectKit, it has a data engine as well as a display engine, which shows data, and a query engine that pre-processes data. Network management objects are replicated in as many data engines as are considered necessary for a given network. Shipment of NetManager will follow the same schedule as ObjectKit and the product will cost \$5,000, but query engines for Novell Inc's NetWare and Microsoft's LAN Manager for Unix networks are currently being developed. These should be available by Spring next year.

MARKET CONDITIONS, WEAK PERFORMANCE MAKE ICL PUT BACK DATE FOR FLOTATION

ICL Plc says it has decided to delay its mid-1990s target for flotation by a few years, but declined to give further details. The company's revenues are climbing, however, and in 1992 it claims to have had a 9.3% share of the UK market, compared with 12.7% for IBM UK, the company it has as its target. The 1991 figures were 14.1% for IBM and 8.7% for ICL respectively, so ICL may have grounds for optimism in beating IBM back. The firm was cagey about giving precise profit forecasts for this year though, saying only that they would be down on 1992 - at the interim stage. ICL said it was profitable, on revenues up 6%. The group has succeeded in shifting its business focus from hardware towards software and services by about 2% a year, with more than half its turnover now coming from this area. The move to selling client-server systems has also paid off, and this now brings in revenues of £1,000m per year. As far as expansion goes, ICL is continuing to move into continental Europe, where it now sells more than in the UK alone.

ICL TALKS UP GOLDRUSH TECHNOLOGY

Reviewing NCR Corp's massively parallel system announcements (UX No 462), ICL Plc's Peter Slavid, business development manager of corporate systems, argues that whilst there are differences between interconnect mechanisms used by vendors in massively parallel Multiple Instruction Multiple Data (MIMD) machines, he says for most intents and purposes, they are "non critical." ICL, NCR and others utilise a "shared nothing" approach, in which a logical global file structure and disks are connected directly to the CPU, not shared across them. The difference between systems of this type is the way that you get around it. ICL's recently announced general purpose Goldrush MegaServer (UX No 459), uses the DeltaNet 1.2 Gbps bus interconnect developed by Siemens Nixdorf Informationssysteme AG, an eight-way mechanism which provides simultaneous - "mesh" type - connections between the HyperSparc RISC-based processing elements Goldrush uses. This approach, says Slavid, assumes the data you want is always somewhere else from where you are, and, he argues, is well-suited to transaction processing tasks. NCR's Ynet bus interconnect mechanism, used in its System 3600, has been proven successful when used in decision support systems, but is less well matched for transaction processing because of the number of steps or branches the system must go through before it reaches the data it is seeking, says Slavid. NCR's 3600 is a combined front and back end system whilst Goldrush is positioned as a general purpose file server which can be implemented alongside existing systems. It is aimed at the distributed systems market, for organisations that have already made the decision to go Unix and expect to move Oracle or Ingres database applications off existing systems like mainframes or DEC VAXes. NCR's parallel system, argues Slavid, is targeted primarily at the mainframe replacement market. With mainframe price/performance currently in the \$20,000 per transaction area, and Unix typically at \$3,000 to \$5,000 per transaction, Goldrush is very definitely part of the latter, he says. Goldrush, currently beta testing at sites including the UK's Department of Social Security, is generally available from next March.

BRIDGE TECHNOLOGY UNVEILS FASTLOAD MECHANISM FOR DB2/6000

Bridge Technology Inc has started shipping Bridge/Fastload for IBM Corp's DB2/6000, which enables users to move data into the database, by by-passing the standard load procedure. Bridge/Fastload, the Boston-based firm claims, reduces the time it takes to put data into the database ten-fold. It also reckons that the amount of disk reserved for expansion space is greatly reduced. Bridge/Fastload is available in a mainframe version, which builds DAT files for DB2/6000 on the host and places the data directly into the database; and a server version, which uses the same technology to build the DAT files on AIX local area networks. No pricing was available.

HP SHOOTS ABOVE \$20,000M TO NO TWO SPOT IN US, NO THREE IN THE WORLD

Hewlett-Packard Co, commenting on its year-end figures, which triumphantly shoot it through the \$20,000m-a-year mark and into the number two position in the US computer industry behind IBM Corp (number three in the world after IBM and Fujitsu Ltd, says that orders taken in the fourth quarter stood at \$5,500m, \$2,800m from the US, \$2,700m from the rest of the world, up from \$4,400m a year ago; total orders at year-end were \$20,800m, up from \$16,800m a year ago. On the downside, the company warns that it expects upward pressure on cost of sales to continue in 1994, but adds that it is starting fiscal 1994 with good momentum; cost of sales for the fourth quarter was 61.4% of net revenue, compared with 58.1% in the fourth quarter of last year, reflecting pricing and other competitive pressures in many parts of the businesses, a continuing shift in company wide revenue mix to products with higher cost of sales and a growing proportion of sales through indirect channels. The fourth quarter is also up on the 59.8% reported in the third quarter; operating expenses rose 11% this quarter, compared with the year-ago period, and represented 30.2% of net revenue, down from 35.9% in the year-ago quarter, and 31.6% in third quarter of 1993.

- Hewlett-Packard Co breaks down the figures for the year to show that computer products, service and support came to \$15,572m, up 29.5%; electronic test and measurement instrumentation, systems and service rose 5% to \$2,318m; medical electronic equipment and service rose 13.8% at \$1,149m; analytical instrumentation and service rose 1.6% at \$704m, and electronic components soared 21.6% at \$574m.

- In the UK, Hewlett-Packard Ltd saw the value of orders grow by 43% in the UK this year - in the Computer Systems division the rates were even higher: values were up by 65% and the number of units shipped roughly doubled - the company says that 60% of the growth came from new customers and that its minicomputer business was particularly strong with the value doubling.

...signs Brixton to turn servers into SNA hosts

No firm has made IBM Corp's life more of a misery in the mainframe world than Hewlett-Packard Co, which has assiduously targeted unhappy mainframe users with its high-end HP 9000 Unix servers, and it has now added yet another weapon to its armoury. The group has done a deal with Cambridge, Massachusetts-based Brixton Systems Inc for its BrxPU5 virtual mainframe gateway, claiming the product enables users of HP Apollo 9000 Series 700 workstations and Series 800 servers to create "virtual SNA mainframes" out of their machines, while still letting them use their existing SNA devices. The BrxPu5 gateway essentially emulates IBM Corp mainframes and enables IBM terminal users to access data or applications running under Unix - these Unix applications have the same look-and-feel as mainframe applications. The two companies will undertake joint marketing of Brixton's other products too. These include 3270 and 5250 emulation packages for connecting HP workstations to IBM mainframes and AS/400s; routers for connecting HP machines together over dial-up or leased lines; and BrxOpenView, an application to co-manage IBM's NetView and HP's OpenView. Meanwhile, recognising the irreversible invasion of its base by Hewlett-Packard machines, IBM's Business Recovery Services is teaming with its rival to offer joint disaster recovery services at mixed sites with 3090s and HP 9000s or HP 3000s.

... licenses workstation clustering tools

Hewlett-Packard Co has started licensing software tools from five vendors to try and make its clustered HP Apollo 9000 Series 700 workstations, running Convex Computing Corp's cluster and Meta Series software, more efficient and easy-to-use. The Meta Series software integrates Convex supercomputers with HP kit. The new tools are Aggregate Computing Inc's Netshare SDK, which combines resource management with remote execution to intelligently distribute work to the most appropriate computing resources on the network, and NetMake, which divides the compilation of software into pieces and performs the compile in parallel across available machines on the network; Argonne National Laboratory's Fortran M, which is a pre-processor and run-time system for a small set of extensions to Fortran, designed specifically for parallel programming; Platform Computing Corp's Load Sharing Facility, a distributed computing system that supports transparent load sharing across heterogeneous Unix machines; and Florida State University's Supercomputer Computation Research Institute's Distributed Queuing System, which queues single-machine jobs, multi-node parallel jobs, PVM parallel-processing jobs and interactive sessions across a heterogeneous networked cluster of Unix workstations. The products are available now, but no pricing was available.

NOVELL CONFIRMS NOORDA IS TO GO

Novell Inc has confirmed that 69-year-old Ray Noorda will step down as chief executive by next June, but will remain as chairman, focussing principally on strategic issues (UX No 462). The company has been conducting an executive search "and a number of candidates are being interviewed". Noorda said, "At 69, it is natural for me to be looking for a successor, and I expect to have one in place long before my birthday in June of next year". In a November 9 interview with *Businessweek*, Noorda admitted that there was some truth to gossip that he has "memory losses", but according to the magazine, he says there is "no question," that the problem has impinged upon his ability to make day-to-day decisions. Noorda added that doctors told him memory losses are normal for a man of his age. The *Businessweek* feature also quoted Jack Messman, president and chief executive of Union Pacific Resources Co and a Novell director, suggesting that Noorda's decision may not have been entirely his own - "We have been very much aware of the need for succession for a number of years," Messman said.

UNISON-TYMLABS MOVES FROM MPE WORLD TO UNIX WITH MAESTRO

Sunnyvale, California-based Unison-Tymlabs Inc, a software house that until recently concentrated on selling systems management software to HP-MPE users, has recently been pushing its way into the Unix arena. The company, the result of a merger last year between 14-year old Unison Software and Austin, Texas-based Tymlabs, says its Maestro networked workload management software for batch job scheduling is a competitor for the likes of Computer Associates, Legent, Candle, Raxco and OpenVision. It allows systems managers or administrators to automate network job scheduling and tracking, enforcing job dependencies and restrictions across different systems and platforms from a single console. It keeps job processing integrity through something it calls fault-tolerant workload distribution. Re-written from Pascal into C, Maestro has been available on HP 9000 Series running HP-UX since June, and HP itself, which has the product running on some 800 systems internally, has now taken out a worldwide corporate licence for the Unix-based version. Unison-Tymlabs is currently working to integrate the product with HP's OpenView. Aside from HP, the company is limiting itself to IBM AIX, Sun Solaris and NCR 3000 platforms for the moment, all of which should become available over the next few months. It has also ported the KLA performance tuning tool over to Unix, and plans to release the Tymlabs Roadrunner networked backup product along with tape library management and resource accounting tools for Unix over the next six months. The company has an installed base of 2,000 plus user sites on MPE. It has 120 employees and subsidiary offices in Austin, Texas and Harpenden, Herts. US +408 245 3000. UK + 44 582 462 424.

WANG RELEASES NEW OPEN/OFFICE

Just out of Chapter 11 bankruptcy protection, the Lowell, Massachusetts-based Wang Laboratories Inc is shipping what is claimed to be the first local area network-based electronic mail system to integrate both X400 and X500 standards in an open client-server environment. The system supports TCP/IP-based networks running Ethernet or Token Ring. The new release of Open/office has the ability to store private distribution lists on clients, and mail these lists to other users, while frequently-used external numbers can also be added to the internal directory. The product is Microsoft Corp Windows-based, enabling mail to be sent from within Dynamic Data Exchange-based applications, including Microsoft Word for Windows, Lotus Development Corp's 1-2-3 and Wordperfect Corp's eponymous word processor. The server can be either an IBM Corp RS/6000 running AIX Release 3.2.1 or greater, or a Hewlett-Packard Co HP 9000 Series 800 Server running HP-UX Release 9.0, both with a minimum 16Mb of memory. The AIX version of the server software is available immediately, with the HP-UX version following at the end of the month.

ILOG's NEW SOFTWARE CHIP OBJECT STRATEGY

Object-oriented software engineering tools developer ILOG SA, has added a new member to its family of C++ development tools and a new strategic concept to its existing line. The Gentilly, France-based company's new ILOG Broker is said to help C++ developers create distributed client-server applications and manage coherence among shared objects. The product, ILOG says, extends C++ functionality to enable developers to apply actions transparently to distant objects. To manage the distribution and coherence of objects among several processes, developers need only add key words to their application source code, the company claims. Automatically generated code calls ILOG Broker's execution libraries and guarantees the reliability of the distributed application. ILOG Broker is in beta test and will be available on Unix systems in the first quarter of 1994. Meanwhile, ILOG has also re-introduced its line of C++ development tools under the concept of "software chips." Each software chip, it says, is a library of C++ classes that provides a coherent ensemble of software functions, such as the graphical structure, programming by rules or constraints, and database storage. It also re-christened two of its products, Pecos and Xrete, to ILOG Solver and ILOG Rules respectively.

POWERPC PROMOTION BODY LAUNCHED IN TAIWAN

In a big pitch for the Taiwanese market, IBM Corp and Motorola Inc have persuaded the Taiwanese government and about 20 Taiwan-based companies to launch a local consortium to promote and develop products based on the PowerPC chip. Taiwan New PC comprises personal computer builders, which are currently big Intel Corp customers, such as Mitac International Corp, Tatung Co and Datatech Enterprises Co Ltd; suppliers of motherboards, add-in cards and components; and Taiwan's largest semiconductor manufacturer, United Microelectronics Corp. UMC plans to develop a chipset for the PowerPC and is said to fancy licensing and becoming a foundry for the processor. IBM and Motorola denied discussing any licence deals with UMC.

MOTOROLA/IBM DEBUT POWERPC 603 MODEL FOR CADENCE SIMULATORS

Motorola Inc and IBM Corp have developed a PowerPC 603 component kit, complete with a simulation model of the architecture, for Cadence Design Systems Inc digital logic simulators, the Verilog-XL Turbo and Leapfrog VHDL. The kit contains the necessary data to design printed circuit boards based on the 603 architecture, and will be available from Motorola in the first quarter of 1994 at \$4,900. It runs on the RS/6000 and Sun Microsystems Inc Sun 4 machines.

ARIES RELEASES NEW SPARCSTATION 10 CLONE

Fremont, California-based Sparc-based workstation developer Aries Research Inc has started shipping its first deskside SparcStation 10 clone, the Marixx DS (UX No 426), which it claims costs 20% less than a comparable SparcServer 10 from Sun Microsystems Inc. The Marixx DS incorporates two Texas Instruments Inc Viking 50MHz SuperSparc processor modules with 1 MB of external cache, but can support up to four 40 MHz or 50MHz Vikings in a 64-bit MBus architecture. The machine generally runs Sun's Solaris 1.x or 2.x operating systems, but should Solaris 2.3 be desired, it will also support Fujitsu Ltd's Ross Technology Inc's HyperSparc processors. A base system includes 64Mb of RAM, 1.05 Gb internal hard drive, two MBus, four Sbus expansion slots, and costs \$26,200.

SOLBOURNE UNVEILS NEW 50MHz SUPERSPARC-BASED SERVERS

Solbourne Computer Inc will start shipping its new 50MHz Series 6 SuperSparc symmetric multiprocessing servers on December 6. The machines have previously only been available in 33MHz versions, but existing customers can upgrade by simply swapping CPU boards. An upgrade costs \$8,990. The Longmont, Colorado-based firm custom-configures each of its systems, but a base model 700 starts at \$56,500 and a base model 900 at \$85,990. Each individual 50MHz CPU board costs \$24,900.

FUJITSU BECOMES ICL TEAMOFFICE DISTRIBUTOR IN JAPAN

Fujitsu Ltd will begin selling and marketing office information product, Team Office, from ICL Plc - in which it has an 80% stake - in Japan from the end of this year. The software will be based on the DS/90 7000 series of Unix business servers, with clients comprising Fujitsu or other personal computers running Windows 3.1. The set as sold in Japan features four basic products: Team Library Information Storage and Management, TeamMail for electronic mail, TeamForum for electronic bulletin boards and conference rooms and TeamCalendar for diary management. Fujitsu has translated the product into Japanese and localised it by adding features such as the text search function. The software is available for the equivalent of from \$460, with configurations such as a TeamOffice Full Media Package and TeamMail for approximately 20-users priced from \$1,750. Fujitsu says that it has plans to expand the functionality of TeamOffice to include audio, movie and other multimedia data. Meanwhile, ICL has also declared it intends to integrate TeamOffice more tightly with its office automation suite, OfficePower. It will release TeamOffice's bulletin board feature, TeamForum, for OfficePower users by the end of the year, and will follow this up with a common e-mail directory to simplify e-mail administration in large organisations using both systems. ICL says it will not merge the two product lines, however, although by 1996 it aims to have a common database based on OfficePower available to TeamOffice workgroups for use as a client-server database.

...HAS NEW RELEASE OF OWN GROUPWARE UNDER SOLARIS...

Fujitsu Ltd has also announced new versions of its own groupware system, newly put up under Solaris on S(Sun)-family servers and Windows, DOS/V and Macintosh clients. The IFOS-SV/U system was first shipped two years ago, and Fujitsu claims that it is used by around 85 companies, with a total of 7,500 client machines installed in a wide range of industries. To date the client versions of the software have been available only for MS-DOS personal computers such as Fujitsu's own FMR series and personal computers from IBM Japan Ltd and NEC Corp. Fujitsu has also set up a new range of support services, which are available all around Japan - this new service division will employ over 200 people, up from 50 currently. Over the next three years, Fujitsu expects to sell 1,500 systems consisting of 200,000 clients.

PICK TO ADD ODBC DRIVERS TO DATABASE, PLANS PORT TO CONSUMER APPLIANCE

Pick Systems Inc is delaying the release of SQL extensions to its Advanced Pick database (UX No 456) as it strives to comply with Microsoft Corp's ODBC level 1 de facto Open Data Base Connectivity standard. It hadn't originally envisaged the need to do so, but now reckons ODBC will "give us more flexibility". The SQL extensions were originally scheduled for release this month, but will now emerge during the first quarter of 1994. Moreover, in the next couple of weeks, the group will announce it has ported its database to a consumer appliance from an unnamed major vendor, adding that its new Windows-based graphical user interface should be available by the first quarter of 1994.

DEC ADDS A JAPANESE LANGUAGE VXT2000 X TERMINAL

Nippon Digital Equipment Corp has announced availability in Japan of a Japanese language X-terminal with advanced graphic performance, the VXT2000 Plus. The X-terminal offers support for simultaneous X Window and terminal sessions, and costs less than a workstation terminal, while having the same graphics resolution. The colour model is aimed at the computer-aided design and engineering and software engineering markets, where its performance of 100K Xstones and graphics performance is thought to be valuable. DEC is also recommending the terminal for use with Unix systems other than its own. Prices start from \$2,500 for a monochrome model through to \$8,657 for a 19" colour model.

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US reports cited **Toshiba Corp's** personal computer unit's general manager, Tetsuya Mizoguchi, as saying the company was thinking of adopting the PowerPC chip for its next generation of workstations and personal computers. Mizoguchi, when contacted by us, however, declared he had been misquoted. He claims to have said that if the PowerPC becomes a de facto standard, then Toshiba will consider using it. The group is already said to be using Intel Corp's Pentium in its desktop personal computers and will be continuing its Intel-Microsoft Corp alignment.

COSE types we spoke to last week expect the group to adopt SunSelect's collection of Microsoft Corp Windows 3.1 calls, the Public Windows Interface, next year, once an initial version of the specification is complete. The idea behind PWI is to bring Windows APIs into the public domain and make it harder for Microsoft to alter, so as to trip up the competition - an example of which is SunSelect, offering to support Windows applications under Unix via its Wabi technology without the need for a Windows licence.

With the common desktop environment under COSE's belt, it now has three potential networking standards under review - Distributed Computing Environment, NFS and NetWare client. Meanwhile, another COSE graphics standards committee is working with Xlib, PEXlib and XIElib standards; yet another is working with the Object Management Group to adopt CORBA standards; a multimedia committee is talking shop with the International Multimedia Association on distributed media service and a desktop integrated media environment, while the systems management workgroup's activities have been taken up by X/Open Co Ltd, which is currently reviewing contenders for a standard. The COSE firms are also investigating data management technologies in conjunction with the Data Management Interface Group, whilst DEC and Sun are trying, on behalf of the group, to establish a general Federated Naming service to improve interoperability between naming services provided by different distributed environments such as DCE and ONC+.

Motorola Inc has delayed the launch of its new fault tolerant machines (UX No 458) now until the last week of November in the US, the first week of December in the UK.

Hewlett-Packard Co and **Hitachi Ltd** intend to jointly develop software that supports the Open Software Foundation's Distributed Computing Environment. Hitachi will work on distributed multi-vendor database access and automated distributed system operation functions, while Hewlett-Packard will deal with multiled libraries for multitasking operations and distributed messaging systems. Product should be available by early 1994.

The tale of Scott McNealy's adventures on his recent trip to the Orient is going to be told in the Business Section of *The Sunday New York Times* on November 28 as dispatches from the road. The lucky stiff. He should get more readership than usual seeing as it's Thanksgiving Day weekend.

IBM Corp is thought to be preparing a debt issue backed by payments on computer leases that may be priced as early as this week.

It's now official - **Microsoft Corp** is porting Windows NT to the PowerPC RISC architecture both as a packaged product and as an OEM offering for system manufacturers. No firm schedule is available, but a PowerPC Reference Platform, or prototype system for developers that supports NT, should be around by the first half of next year.

The thought of acquiring **Sun Microsystems Inc** has occurred to **DEC**, one of its vice presidents told us.

Hard as it is to believe, **Cray Research Inc** was at Comdex last week demonstrating its recently announced Alpha-based T3D massively parallel system at the DEC booth. It has nine initial orders.

Corollary Inc has resigned its corporate sponsorship of Uniforum having no faith in the show any more.

Giving the keynote address at Comdex, **Apple Computer Inc** chief executive Michael Spindler said the company will never again price its products above the rest of the market, but will maintain its role as a technology innovator, and said again that Apple is considering offering the Macintosh environment to third party vendors, without giving details of current thinking.

What is left of **Everex Systems Inc**, Fremont, California is now owned by the **Yside Investment Group**, and Taiwan-based Yside has changed its name to Everex Systems Inc. It is now a wholly owned subsidiary of the Formosa Plastics Group. At Comdex/Fall last week, Everex launched the latest members of its Step family - highly integrated, easily expandable 80486-based, local bus desktop personal computers.

Apple Computer Inc says its PowerPC implementation of System 7 is now in beta test and on schedule for the March 1994 launch. Apple also signed a licensing agreement for DayStar Digital Inc to offer PowerPC 601 processor upgrade boards for Macintosh Quadra 950, 900 and 700.

Intel Corp says P6, the Pentium follow-on, is now half done.

Many vendors in the MIPS camp, even Acer according to some sources, are now eyeing the IBM/Motorola PowerPC.

Progress Software Corp has hired Arun Taneja as vice president of marketing. He'll report to vice president of marketing and development, John Wark.

Besides recent reports of **IBM**, **DEC** and **Sun** building Intel emulation into their chips, there are also rumours that IBM is making the PowerPC pin-and electronically compatible with an unspecified version of the 486 or 486 upgrade.

Five suppliers of object-oriented development tools have licenced **IBM Corp's** Personal Software Products' System Object Model (SOM) and workstation Distributed SOM technology and will release product in the first quarter of 1994. The companies are ParcPlace Systems Inc; Digitaltalk Inc; Metaware Inc; Watcom Ltd; and Objective.

Former Tandem chief technology officer, Gerald Held, is now **Oracle Corp's** vice president, Interactive Multimedia and Document Automation.

Burglars in Holland were disturbed by police as they loaded a Sparcstation 10 pizza box stolen from a **Sun Microsystems Inc** customer service lab into their getaway car. The thieves eventually eluded police in the ensuing chase by throwing the Sparcstation out of the window at some 60 mph. The Sparcstation's top was ripped off and some of its plastic melted on impact with the pavement, but Sun says when it was returned to the lab and hooked up to a monitor the thing booted-up first time.

A civil court in Milan finally cleared **Ing C Olivetti & Co SpA** chief Carlo De Benedetti of wrongdoing over the collapse a decade ago of the Banco Ambrosiano bank: the ruling was final, but De Benedetti still faces a possible jail sentence in a separate criminal case arising from Italy's biggest post-war banking crash. The criminal proceedings against De Benedetti are also the subject of an investigation by the Justice Ministry, which ordered the probe earlier this month to establish whether there had been political pressure on magistrates to pursue De Benedetti. He has never been popular with Rome politicians.

Apple Computer Inc will next month reveal details of its Apple Services for Open Systems environment, announced back in May, which will enable users to run Macintosh applications unmodified on Unix servers, workstations and X terminals (UX No 434).

Siemens AG says it will cut another 5,100 jobs at its Siemens Nixdorf Informationsysteme AG unit this fiscal year to September.

Stuttgart-based **IBM Deutschland GmbH** will cut at least another 3,500 jobs from its workforce in 1994, on top of the 3,500 cuts already announced for 1993, making a cut of at least 28% on the 25,000 full-time staffers it had at the beginning of 1993. The company blames price wars and pressures on costs within the industry as well as the continent-wide recession.

At the Supercomputing 93 show last week, **IBM Corp** demonstrated its 64-node Powerparallel System, running new parallel scientific and commercial applications, for the first time. The System 9076 SP1 supports most of AIX's existing 6,500 applications and can sport thousands of processors. Moreover, IBM claimed that, using Linpack Highly Parallel Computing benchmarks, a 32-node machine ran at 2Gflops and a 64-node one at 3.9Gflops. IBM also attested that the Embarrassingly Parallel Numerical Aerodynamic Simulation benchmark indicated a 32-node system performed 10.6 times better than a Cray Research Inc Y-MP/1, and a 64-node version, 20.8 times better.

Compagnie des Machines Bull SA is proposing to shareholders that it convert every 10 shares of 20 francs nominal into one share of 200 francs nominal: in an accounting sleight of hand, this would reduce its capital, it says, enabling it to erase in part last year's losses from its balance sheet.

Washington DC's **Net Week Inc** has published the first issue of a newsletter for the Internet community: *The Internet Letter* is a monthly bulletin of news on services, users and internetworking. Gopher ftp.sprintlink.net (menus /News and Documentation/News/Internet-Newsletter), netweek@access.digex.net or +1 301 229 8096.

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NEWSFLASH

VOTE TAKEN, UNIX INTERNATIONAL "WILL CLOSE" AT YEAR-END

As we've suspected for some months now (UX No 438), Unix International will close its doors at the end of this year, sources close to the organisation said last week. The decision, recommended by a meeting of the UI executive committee last Tuesday, will be taken to the UI membership for approval over the coming days, but is unlikely to be opposed. The move is intended to pave the way for the proposed NewOrg body to come into being, the organisation to be offered up by the industry as the vehicle for establishing standard, second generation, open systems technologies in such areas as middleware and distributed computing. Although the Open Software Foundation is likely to make political hay at UI's expense when a public announcement is made, UI can at least claim it has carried out a good portion of its original aims, notably establishing Unix SVR4 as a market standard. As one source observed, "it's time to move on from the operating system to middleware technologies, these are the issues that need to be sorted." The closure of UI may free up some of the processes needed to establish NewOrg, but much of that work is currently bogged down in figuring out future for OSF, its technologies, its personalities and the issues raised by the anti-trust case that the organisation still faces. NewOrg is intended to be a forum for all open systems players and is seen as the natural home for many of the middleware technologies now emerging from OSF. It is "the mechanisms that are proving difficult," according to our source. Whether NewOrg becomes a development organisation or not is too soon to tell at present, but there is certainly "a need for it," said one source. NewOrg, it is hoped, will be everything that COSE currently is not. It will have an infrastructure and a formal, complimentary and clearly-defined relationship with X/Open Co, and will provide for multiple implementations of technology. A Novell users group will rise from the ashes of UI to carry forward specific Unix System Labs operating system requirements. Some 20 staff at the Parsippany, New Jersey office stand to lose their jobs with UI's demise.

UniWorx in San Diego, California, has an "easy-to-learn" \$99 computer-based tutorial on the Unix operating system called the Unix Voyager that it claims costs about a third of the price of comparable classroom training. It's designed for end users, application developers and resellers and runs on MS-DOS machines. UniWorx says it's the same material currently taught for credit at the University of California, Berkeley and at Unix sites like NASA. +1 619 563 1004

SunConnect, the Sun Microsystems Inc subsidiary charged with the marketing and support of SunNet Manager, has signed six new developer and integrator partners in Europe and Israel and two master-distributors in Europe. In France, the chosen are Alcatel Business Systems Group, OST SA and Philips Communications Systems division TRT SA - these have all introduced new network management products based on SunNet Manager. The others are Germany's Hirschmann GmbH, Belgium's Alcatel Bell ITS, and Israel's Lannet Inc. The two master distributors are Diva Microsystemes SA in Velizy, France, and Consultancy & Projects Group in Rome, Italy.

ICL Plc has joined the growing band of Unix acolytes of Islandia, New York-based Computer Associates International Inc: the two have agreed joint development and marketing of CA-Unicenter systems management and CA-Masterpiece series financial software for ICL's DRS 6000 Unix machines. ICL is also allowed to offer both products in prime contract and systems integration bids; ICL will also provide consulting, training and installation services.

Ian Edmonds is to head-up Advanced Visual Systems Inc's AVS/Uniras European operation, formed when AVS acquired Danish graphics software house Uniras A/S back in September. Former Uniras sales outlets in France, Germany, Italy, UK and Denmark will operate as wholly-owned AVS/Uniras subsidiaries. Edmonds, former president of Stardent Computer Inc, co-founded Stellar Computer Inc, along with AVS boss Bill Poduska.

Gearing up for its commercial systems venture (UX No 460), Silicon Graphics Inc has released its first TPC benchmark figure: a Challenge server with 28 Mips R4400 processors achieved 1,786 transactions per second on TPC-B running the Oracle7 database, or \$1,605 per transaction, the company says.

IXI Ltd hopes to begin shipping versions of Win-tif in January. An initial implementation of the Windows look and feel for Unix applications - which comes embedded within its Motif-based IXI Desktop manager - will emphasise delivery of the Windows look, with some limited interoperability features; more functionality will follow.

Although terms of Cypress Semiconductor Corp's proposed buyout of Performance Semiconductor Corp are still under wraps, Electronic News hears that Cypress may acquire Performance by simply assuming the firm's \$15m debt, in which case Performance chairman and CEO Thomas Longo could be forced to walk away empty-handed from the company he founded in 1984 and grew to \$50m sales.

In an attempt to shake its image which has been hurt by long-term restructuring, East Hanover, New Jersey-based Pick-popper, Ultimate Corp, has changed its name to Alle-ion Inc.

Postalsoft has moved its mailing software to IBM, Data General, Mips, NCR, Sun and Hewlett-Packard machines. +1 608 788-8700

Marietta, Georgia-based Maximum Computer Technologies Inc is now shipping version 1.5 of its Double Vision software which allows one user to control another's terminal: prices go from \$400 for a variety of Unices. +1 404 587 9152

Cincinnati, Ohio-based Cincom Systems Inc's CPCS project management system is now up under Hewlett-Packard Co HP-UX, prices start at \$12,000 - other Unix ports will follow. +1 513 662 2300

NovX Systems Integration, Seattle, Washington, is offering NovX Interserv, a bunch of services that allow businesses to link operations over the Internet. +1 206 447 0800.

Vmark Software Inc has integrated SQL into release 7 of its uniVersedatabase system says it has enhanced transaction management capabilities to ensure data integrity between transactions.

Herndon, Virginia-based InterCon Systems Corp has opened an affiliate company in Tokyo, InterCon International KK, to market InterAccess, a service which enables customers to access Internet. It costs \$2,000 per month and is initially out only in Japan.

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CONTROL DATA ENHANCES MESSAGING, MAIL SERVICES

Control Data Systems Inc has made three new enhancements to its electronic messaging and electronic mail integration services. The first is a new version of its Mail*Hub messaging integration system for workstations and network servers, running Sun Microsystems Inc's Solaris 2 operating system. This follows Control Data's announcement last June of support for Sun systems running Solaris 1.x. Second, Mail*Hub has been upgraded to incorporate the 1988 CCITT X400 Message Handling System standard in addition to X500 standards. This brings such improvements as support for the expanded X400 address set specified in 1988 X400, which improves address definition, and the ability of X400 distribution lists to be defined in the Mail*Hub's X500 directory with access controls to specify who can use them. Control Data adds that Mail*Hub is downwardly compatible with 1984 X400 for connection to sites supporting only the earlier version. Third, the Arden Hills, Minnesota-based firm has signed a deal with Canadian company Keyword Office Technologies Inc, which specialises in document conversion products for enterprise-wide document interchange. Under the agreement, Control Data says it will integrate its Mail*Hub system with Keyword's KEYpak document conversion software, to "give users true cross-system, mail-enabled applications." All three enhancements are available now, but no prices were available.

IBM'S GROSS PROFIT MARGINS CONTINUE TO DECLINE

IBM Corp's gross profit margin on computer hardware continued to decline in the third quarter, the company's 10Q filing with the Securities & Exchange Commission discloses. According to the *Wall Street Journal*, the group also reduced spending on research and development in the third quarter by 20% from the year ago level. Gross margin on hardware slumped to 30.2% in the third quarter, down from 30.6% in the second quarter and 40.5% a year earlier. Gross software margins dropped to 61.3% from 62.0% in the second quarter and 68.1% a year ago. Margins on maintenance were 53.2%, down from 53.6% in the second quarter and 55.2% a year ago; on services, they were 13.2%, down from 15.1% in the second quarter and 16.8% a year ago; and on rentals and financing, they were 59.4%, down from 59.8% in the second quarter, but above the year-ago level of 58.7%. Cash rose to \$1,570m at September 30 from \$1,150m at June 30; cash equivalents fell to \$3,760m from \$4,880m; and marketable securities rose to \$840m from \$737m. Short-term debt was \$16,150m at the end of the third quarter, down from \$17,150m, but long-term debt rose to \$15,390m from \$14,560m. On the bright side, selling, general and administrative expenses shrank 8.9% in the third quarter to \$4,260m.

- **UniWorx** in San Diego, California, has an "easy-to-learn" \$99 computer-based tutorial on the Unix operating system called the Unix Voyager that it claims costs about a third of the price of comparable classroom training. It's designed for end users, application developers and resellers and runs on MS-DOS machines. UniWorx says it's the same material currently taught for credit at the University of California, Berkeley and at Unix sites like NASA. +1 619 563 1004

- **Information Dimensions Inc**, a subsidiary of **Online Computer Library Center Inc**, has introduced TechLibplus, a library for automating corporate, government and technical libraries for Unix. Techlibplus is available now and runs on DEC, IBM, Siemens and Bull platforms. +44 71 497 1403 or +1 614 761 7262.

NOVELL SET WITH FLUENT

MULTIMEDIA NETWARE SOFTWARE

Novell Inc plans to announce enhanced multimedia networking software from its Fluent Inc acquisition next month. The product enables video and audio signals to be sent over local area networks with sufficient bandwidth that the audio arrives without distortion. Fluent launched FluentLinks, a NetWare Loadable Module version of its core software, which integrates full motion video and audio into networked applications in January. Novell paid \$17.5m for the company in July.

PLENTY OF LOAN CAPITAL, BUT RUSSIAN COMPUTER PROSPECTS ARE POOR

Despite the possibility of plenty of loan capital becoming available for Russia, Tim Nulty, principle economist at the telecommunications and information technology division at International Finance Corp, says there will be serious problems in distributing the money to computer projects in the foreseeable future. International Finance Corp is the private sector side of the World Bank. It will invest in projects only if its share is less than 25% of the total loan, and is not prepared to be the largest single investor. "We find it difficult to do projects worth less than \$3.5m to \$4m. Unless some kind of devolved structure can be set up to distribute money in the regions, International Finance-backed projects in the computer sector look unlikely," he says. The best prospects for computer suppliers are in contracts with utilities and other infrastructure projects, where computer purchases will be one of many components. From the point of view of investment opportunities, he says the most interesting sector at present is the fabrication of application-specific integrated circuits in the countries of the former Comecon trade area.

FOUR ALL-RUSSIAN ELBRUS-3-1 SCIENTIFIC SUPERCOMPUTERS MAKE IT OFF PRODUCTION LINE

Four of the all-Russian Elbrus-3-1 supercomputers have now creaked off the production line. Recent tests done by its makers confirm the computer is capable of more than 1 GFlops. The Elbrus project is based at the Institut Tochnoj Mekhaniki i Vychislitelnoj Tekhniki - Institute for Precise Mechanics & Computer Equipment, which is part of the Russian Academy of Sciences. Jenny Ryabov, Director of the Institute, confirmed that only Russian-made components were used in their manufacture. Logic circuits were produced at the Mikron enterprise in Zelenograd near Moscow and the Svetlana enterprise in St Petersburg, memory circuits at Mikron and Angstrom in Zelenograd. Most of the microprocessors were produced at defence industry enterprises. The Elbrus project was established at around the same time as the Soviet space programme for use in space and ballistics research programmes. The Elbrus-3-1 was developed partly under contract with the nuclear research centres in Chelyabinsk and Arzamas.

- This facilities management and systems integration business can get a bit galling for a company like IBM Corp: Knight-Ridder Co's database services company Dialog Information Services Inc in Palo Alto has awarded a contract to the IBM Consulting Group to assist it in refining its new client-server architecture. Dialog is downsizing from MVS mainframes to a networked client-server system, using Unix boxes - but sad to say, the latter come not from IBM but from Sun Microsystems Inc.

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SUN SIGNS FOR NEXTSTEP TO DEVELOP OBJECTS, OFFERS OPENSTEP INTEROPERABILITY SPEC TO OMG, X/OPEN

Having apparently put any bad blood between themselves aside, Sun Microsystems Inc last week threw a lifeline to Steve Jobs' now software-only NeXt Computer Inc by licensing the NeXtStep application development environment and interface for use with its Distributed Objects Everywhere (DOE) environment on Sparc and Intel versions of its Solaris operating system. The agreement, which Sun sealed by purchasing a minority stake - around 1.5% - in NeXt for \$10m, also calls for the publication of an OpenStep specification by the end of June next year, defining a set of NeXtStep application programming interfaces (APIs) that can be used independently of NeXt's Mach microkernel-based operating system. These include NeXtStep's application development kit, database kit, distributed objects, Adobe PostScript and the object-oriented Objective C language in which it is written. As part of the deal, NeXt has licensed Sun's implementation of the Object Management Group's CORBA architecture, the Interface Definition Language (IDL) and Network File System, for incorporation into NeXtStep, and OpenStep. Anyone that wants an OpenStep implementation will certainly licence NeXtStep rather than build from scratch - the real importance of the API, apart from "opening-up" NeXtStep from Sun's point of view, is that the two will submit it to OMG and the X/Open Group Co for use as a standard in object computing - see below. Sun is understood to have insisted that Jobs put NeXtStep interfaces into the public domain as a pre-requisite to any deal: "we were persuaded that the world has changed," said Jobs, "it's an open systems world." Although Sun didn't disclose its specific product plans, it will have to develop a compiler that can translate applications and objects developed using Objective C in NeXtStep to the C++ DOE, and to map from there on to IDL. The company will unveil beta release details and other plans for the object environment to co-exist with procedural development and interface environments at its April 1994 developers conference. Programs created under Sun's new object environment will also run on Jobs' NeXtStep, and as part of the deal, NeXt and Sun's Sparc Technology Business will also develop a native port of NeXtStep on Sparc. The lack of homogeneous application development and interface environments for DOE developers has been apparent for sometime. The deal with NeXt is not only a buy-over-make decision to resolve the shortcoming, but, because NeXtStep 3.2 is already out there, offers Sun the chance to steal a march on object operating system rivals - particularly the Taligent Inc and Microsoft Corp Cairo systems - by getting to market ahead of the competition and putting a complete environment under the noses of the independent software vendor community.

FUJITSU ADDS HAL TO ITS SPARC COLLECTION

Fujitsu Ltd last week made HaL Computer Systems a wholly owned subsidiary, after reportedly paying a whopping sum of "more than \$50m" for the 56% it did not already own. HaL has been one of Fujitsu's pricier investments considering the company has yet to produce a single product and is at least 18 months late in getting its 64-bit Sparc machines to market. The companies said last week that HaL will serve as the principal development centre for advanced 64-bit hardware and operating systems for the Fujitsu group of companies, suggesting it will be given new research and development briefs down the road. Insiders blame HaL founder, Andy Heller - who in a past life led the design team for IBM Corp's RS/6000 and left HaL earlier this year to become "a consultant to Fujitsu - for mismanaging it into its current situation, by changing direction too many times and starting and stopping programs, even if they seemed to be going in the right direction. Apparently HaL will make some attempts to salvage the product it was supposed to produce, but there is no indication it will come to market soon, if at all, or how truncated it will be. It does seem that the 64-bit Sparc chip it was designing as the basis of its machines now works in some fashion or another though. The move certainly intensifies Fujitsu's position as number two keeper of the Sparc architecture behind Sun Microsystems Inc - if any 64-bit work HaL has done is worth preserving, it can be fabricated at another of Fujitsu's 1993 acquisitions, HyperSparc specialist, Ross Technology Inc. However, while HaL has always been highly secretive about the nature of its development, it is now suggesting that its claims have been largely braggadoccio. It still has about 200 people, although attrition is taking its toll.

MICROSOFT TO CUT PRICES ON WORD, EXCEL FOR UNIX

Microsoft Corp, trying to rough up Wabi, is this week scheduled to announce a highly hostile price cut on the Word and Excel packages it has been bundling with Quorum's Equal applications adapter and selling into the Unix space. Since June, the three-piece set has been sold on a CD for \$1,295. The two are now going to break it up into Equal with either Word or Excel and price the goods at \$300 for personal computers. *More Wabi news see inside and back page.*

SUN READIES SS10, LX MICROSPARC UPGRADES

Sun Microsystems Inc is working on upgrades to two of its workstations: Kodiak, reportedly a faster version of the Sparestation 10; and Aurora, a new iteration of the low-end LX, but based on the MicroSparc-II chip - a scheduled piece of silicon that has not been used before. Both boxes are due in April and Sun will try to position the new LX as more powerful than Pentium-based machines, but with a comparable price. The 3.3-volt MicroSparc-II is designed to go from 70MHz to 100MHz or 45-60 Specint 92, with a new floating point unit, enhanced integer unit, 4x cache and power management, produced by a more streamlined manufacturing process (UX No 427). The new SS10, conversely, will be based on an unanticipated revision of the SuperSparc chip, due to be announced early next year. Sun has reportedly been able to reduce the number of support chips that SuperSparc needs by one - a pricey Mbus controller that costs hundreds of dollars. Although the price of the SuperSparc chip remains the same, it will cost less to produce the whole system. The chip, which will be made by Texas Instruments Inc, Sun's Sparc house, reportedly works with existing chip sets and will start at 50MHz. Samples should be available in the first quarter, with production quantities following in the second. The advent of this "low-cost" SuperSparc will affect the way Sun phases in 60MHz SuperSparcs. Although the chip is now said to be available to everyone at 60MHz clock rates, it is not being manufactured in sufficient quantities for Sun. Sources say it is unlikely the present iteration will be produced in Sun quantities at 60MHz, and the company will await the arrival of the "low-cost" SuperSparc to make the move.

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SUN LEADS NEXT FROM THE COLD

The Sun/NeXt tie-up poses as many questions as it answers for object watchers, but if nothing else, it brings NeXt right back into contention from the wilderness where it has been exiled for some time.

Most immediately, where does it leave Hewlett-Packard Co? HP co-developed the technology on which DOE is based, and offers its own implementation, DOMF. Sun last week said it is actively seeking agreement with HP to get the Palo Alto firm to follow in its footsteps and endorse OpenStep as the vehicle for object development and application interoperability. HP could not be reached for comment last week, but it has already licensed NeXtStep on its Intel Corp boxes and sells the environment as a solution to financial markets on its PA RISC Unix series. On the other hand, HP is also being courted - and has been for months - by IBM for its Taligent technology, though that relationship remains unconsumated too.

The battle for product selection aside, the Sun/NeXt agreement means in theory, that applications created under DOE with NeXtStep should run over the three firm's respective CORBA implementations - Sun DOE, HP DOMF and IBM DSOM - under their agreement to provide interoperability via a set of object interfaces back in June (UX No 441). IBM and HP, as part of their on-off affair have, in any case, already agreed to integrate DSOM and DOMF.

The June agreement between the three was seen as the preliminary move towards a joint submission to CORBA 2, the next stage of OMG's Object Request Broker specification. This includes a key request for specifications for an interoperable technology that will enable programs and data to move from place to place without concern for the underlying hardware or software; (IDL was the first step). Sun now appears to have cut and run from the bunch, offering-up OpenStep as just such a specification. With CORBA 2, OMG intends to provide interoperability between Object Request Brokers that have been developed by different firms. It is keen to get the world's major software supplier, Microsoft Corp, involved, and Microsoft, of course, has its proprietary Object Linking & Embedding (OLE) solution. However, this Tuesday, Microsoft is expected to announce technology developed by DEC that will provide CORBA compliance for OLE 2.0, which will be available late next year - plus systems management and object services provided by Candle Corp - technology that will pave the way towards Microsoft's 1995 Cairo object-oriented environment. The DEC system will effectively reconcile differences between OLE and CORBA, and translate OLE objects into CORBA objects and vice versa. The two are also expected to submit this to OMG for adoption as the interoperability element of CORBA 2 at its December 7 Object Services Task Force meet in Austin, Texas. Although Microsoft is thought to have held discussions with IBM, HP, Sun and others on ways of providing interoperability between OLE and the firms' respective CORBA implementations, the problem is that the DEC solution binds objects together in a dynamic fashion whilst IBM, HP and Sun *et al* use what are known as static bindings. OMG president, Chris Stone - due to meet with Bill Gates this week - admits the selection process "should be interesting."

Which toolkit do software developers aim at? - Motif/CDE or NeXtStep? Beware the confusion when Sun carried XView and NeWs in parallel.

Does Sun get a seat on NeXt's board as a result of their deal? A resounding NO was heard from all quarters. Indeed, Sun boss Scott McNealy made the point in his very own way "I hate being on boards. I'd get off mine if I could."

NeXt Computer Inc says it shipped 50,000 copies of NeXtStep on Intel last year and should should run at 100,000 in 1994.

Sun's move to NeXT may provoke others to do the same. Reportedly, both DEC and Silicon Graphics are likely to sign up and may announce their decision at the NeXT developers' conference in January.

One developer we spoke to after the Sun/NeXt announcement (who said he couldn't believe how the firms had managed to obfuscate the real issues at stake) observed that back in the early days of the first Sparcstation, Sun's own development engineers were scoffed at by management when they recommended going with object technology from the outset and signing for Steve Job's NeXtStep environment (or like) - technology they'd just seen IBM Corp pick up.

OSF PLOTS USER INTERFACE FUTURE

With not a lot else to shout about at the moment, the Open Software Foundation has been talking-up the prospects for Motif and its future user interface technologies. We already know that Motif 2.0 will include new widgets provided by the likes of DEC, IBM and Lotus, including text and container widgets, a combo box and notebook. They were selected earlier this year after a 1992 request for technology. The widgets will emulate Microsoft Windows and IBM Common User Access more closely than in previous versions - but not at application programming interface level - and the environment will also come with tools that enable developers to build new widgets using C and C++ routines. The enhancements mean that Motif 2.0, due by mid-1994, will be different in some respects to Motif 1.2, the version used as the basis of COSE's Common Desktop Environment. Motif 2.0 is understood to use a different drag and drop mechanism, while bevelling around windows will be dropped, changes that at least one COSE firm believes will mean a less sophisticated front-end. It also notes that these changes may lead to some instances of incompatibility between different Motif implementations, and says some developers are already in a quandary, wondering whether to aim for CDE (Motif 1.2) or Motif 2.0 as their primary development target. OSF's director of Motif, Elizabeth Connelly, says the fact that CDE is based on 1.2 shouldn't prevent developers writing to 2.0 and she does not anticipate any problems. Moreover, she'd like to see COSE move CDE up to 2.0. OSF believes the industry will address the issue and says the Motif specification set, when ratified by X/Open Co as a standard - it's already been taken up by IEEE - will reflect agreement between COSE and OSF over the interface, conformance to which should ensure there is no divergence between a standard Motif application programming interface and implementations. The new licensing and pricing charges for Motif 1.2 will be carried forward into 2.0, OSF says, where developers with full distribution licences can pay a fixed yearly fee - currently \$1m - to use or distribute unlimited copies in binary form under the same operating system.

As far as future developments are concerned, OSF has scaled back or abandoned some of its original far-reaching plans.(UX No 399,422) but is still on course to evaluate what such development will require and what would result. There's now no need to work on structured graphics mechanisms, it says, that task is already in hand at the X Consortium with the next-generation Fresco toolkit, C++ and structured graphics extensions to the Xt toolkit that will start to appear in X11 Release 6, due on general release next year, with a fully-fledged implementation due in X11R7 (UX No 416, 442). OSF has a working group on structured graphics and both it and its members have been taking those requirements forward to the consortium.

As for the Graphical User Interface Application Interoperability Initiative (GAIA), OSF says there are already half a dozen or more solutions either available or under development that provide application interoperability under the windowing system, OpenDoc, OLE and DEC's ATA being examples. Anything OSF does won't be unique, it argues, so it'll let others get on with the work and fold its stuff in.

OSF's next-generation interface environment, UEC II (UX No 416), isn't conceived as an evolution of Motif as such, and won't be yet another polishing-up of the style guide with a new set of widgets. Rather, it is seen as a means of distributing a user environment across networks and will include ways of incorporating technologies like handwriting and pen-computing and the ability to drop multimedia features on to text widgets. It also starts with the assumption that developers shouldn't need to be concerned with building point-and-click into their applications. This should be function of the interface itself. Slated to use OSF's DCE as its delivery vehicle, UEC II is currently undergoing business evaluation and a technical feasibility study over at the Foundation, with a prototyping schedule, if agreed upon, set to resolve technical unknowns.

Although OSF has decided to scrap the Distributed Management Environment (UX No 460), US reports say it does plan to reference object-based frameworks from different vendors that can work with its Distributed Computing Environment and management objects sitting on top of these frameworks. DME was to have comprised three elements: the object management framework; the network management option (NMO); and distributed services, which is now shipping. The latter was supposed to include print management services, but these were reportedly scrapped because they had nothing new to offer the market. Work is said to be continuing on NMO however, set for release in the middle of 1994, although OSF says it is "cautiously optimistic" it will be out before that.

COSE/NEWORG HOLDS BACK AS UI AND OSF SORT OUT THEIR FUTURES

The people trying to develop a workable proposal for NewOrg, the official home for COSE, have backed off to try and give the Open Software Foundation and its board room time to breath and decide what to do: either stay open or shut down. The founders of Unix International have set the pace with a decision 10 days ago to close the consortium at the end of December (UX No 463). Both UI and OSF staff were asked to make recommendations about their own fate and both reportedly came back with proposals relatively unchanged from the status quo. UI's board decided to override the recommendation it got, and OSF's board is now said to be wrestling with the same dilemma. NewOrg's decision to lay low for a while, reportedly because it realised the pressure it was putting on OSF was only aggravating the situation, will probably move the debut of its organisation into 1994. OSF's board told the COSE/NewOrg people to lay off and stop trying to define its charter for it. NewOrg insiders are still talking about taking over parts and people from OSF, but leaving the software development pieces - and the Addamax suit - behind.

GEOFF SQUIRES QUILTS ORACLE

Strangely, some observers saw Geoff Squire's move from head of international operations to a shadowy post working on "new business opportunities" at Oracle Corp as a promotion rather than an uncomfortable shunt sideways, but he clearly saw things differently, and has quit. Oracle says as a result, plans for a new business development operation have been abandoned. Squires is one of two Brits, the other being Peter van Cuylenberg, that some have in mind for the top job at Novell Inc. *PC Week* also suggests IBM Corp's Ellen Hancock and AT&T Co's Robert Kavner - Novell chief Ray Noorda, who has promised to name a successor before he turns 70 in June, had hoped to bring Kavner aboard as part of the Unix System Laboratories Inc acquisition, but the two were unable to reach agreement, the paper hears. The more fanciful suggest that Novell might acquire Lotus Development Corp, Oracle Corp or Sun Microsystems Inc to land the right chief.

QUALIX TO DISTRIBUTE XvM OPEN-LOOK-TO-MOTIF SOFTWARE

Qualix Group Inc will begin distributing XvM application programming interface-level software that can convert applications with an Open Look front-end to a Motif look-and-feel, in December. XvM is essentially a library for graphical user interface-based applications that support Sun Microsystems Inc's XView API. The product recodes the XView library so it can make calls to a Motif library, modifying the XView mouse and menu so they behave like Motif. Users simply recompile and run their existing XView code in a Motif application, which the San Mateo, California-based firm claims, makes porting quick and easy. XvM will initially be available under Sun's SunOS 4.1x operating system, but Solaris 2 support will follow in the first quarter of 1994. It also runs under X11R4 and R5, Motif 1.1.2 or higher as well as XView 3x applications, and costs \$500 for single user binary code, \$5,000 for source code. Nonetheless, it is actually a two-man operation in Stevenage, Herts that takes the credit for developing the product. Interface Engineering Ltd was set up in September 1991, after its founders left the applied research group of British Aerospace Plc. They developed a C++ interface for XView, which unfortunately only sold about 50 copies. However, Qualix took an interest in an advertisement for the product, offered to be their distributor in the US, and sponsored them in their next undertaking, which was XvM.

FUJITSU HAS 68030 UNIX NOTEBOOK

Despite Fujitsu Ltd's heavy involvement in the Sparc world, it has surprisingly chosen a 20MHz Motorola Inc 68030 to power its entry into the Unix notebook market. *Newsbytes* says the FMG-1500NX comes with thin-film transistor colour display of 640 by 480 pixels. Weighing 6 lbs 10 oz, it sells for the equivalent of \$7,800 with 60Mb disk in Japan. A 240Mb disk is available, and there is a slot for an 80386SX board for Fujitsu's version of MS-DOS. Electronic mail, print server, client-server and multiple transaction server software is on the way, and Fujitsu hopes to sell an unlikely 40,000 of the things over two years.

WORDPERFECT DENIES RUMOUR IT INTENDS TO CAN UNIX OPERATIONS

Flying in the face of persistent US rumours that WordPerfect Corp intends to close its Unix operations, the Utah-based firm says it has, in fact, developed a C engine to write new versions of its wordprocessing and office applications, and plans to release new products at the end of this year and the start of next. In the past, Wordperfect took assembly MS-DOS and then translated it into C, but now claims development time has been reduced by two-thirds. It did add, however, that it has cut the number of Unix ports from a high of 29 in 1987 - when it first started in the business - to seven now, and five by next year - it is limiting its activities to those operating systems it believes have the largest market share. NeXt Computer Inc's object-oriented operating system, NeXTStep, has certainly gone by-the-by because "it is not paying for itself". But, we can expect to see WordPerfect Office 4.0 shipping under Sun Microsystems Inc's SunOS by December, under Solaris, Hewlett-Packard Co's HP/UX, IBM Corp's AIX, the Santa Cruz Operation Inc's brand of Unix and SVR4 on Intel Corp hardware by the first quarter of 1994. Come February, WordPerfect 6.0 will be announced for shipment under Solaris and SunOS on March 31. Ports to the other environments will follow in the second quarter. Version 6.0 will also include such enhancements as financial spreadsheet integration "to tap growth in the uptake of Unix" in the commercial sector. WordPerfect says it generated roughly 5% or \$20m from Unix sales this year, but expects Unix revenues to grow by about 15% in 1994.

MORE BARBS EXCHANGED IN WABI WAR OF WORDS

Ever since SunSelect's Wabi Windows-under-Unix environment came along (and probably before), Sun Microsystems Inc and Microsoft Corp have been tossing verbal barbs at each other. The latest, it seems, is that Microsoft intends to offer only limited support for its applications running on Wabi. It will help customers out if there is a problem with the application itself, but not with the interface or the operating system. The firm is thought to be preparing a letter stating its position for major accounts. The problem apparently came to a head with SunSelect's qualification - the so-called "certification programme" - of applications running on Wabi. And of the initial 13 applications up on Wabi, it is the latest versions of Microsoft Word and Excel that don't work entirely independently of Windows. Sources say Microsoft's systems division was probably so cheesed off at the implied collusion of its application division in the certification programme that it initiated an intent to withdraw support. SunSelect observes, however, that its Wabi OEM customers provide first tier support for Wabi and it will step in wherever OEMs require additional help. The irony is that Microsoft is already, or will soon, offer support on most other Windows-on-Unix emulation products available or under development. There was speculation that Microsoft would sue SunSelect for infringement of its proprietary Windows interfaces, but a lawsuit hasn't appeared. One source believes Microsoft is waiting for products to emerge and now has its lawyers looking the stuff over.

SUNEXPRESS DISTRIBUTES ICS MOTIF INTERFACE BUILDER WITH SOLARIS

Cambridge, Massachusetts-based Integrated Computer Solutions Inc is now shipping version 3.0 of its Builder Xcessory Motif graphical user interface development system. The C++ environment includes Motif 1.2 and internationalisation support. As expected, Sun Microsystems Inc's distribution arm, SunExpress, will carry BX 3.0 for Solaris. ICS says BX 3.0 will enable developers to migrate DevGuide OpenLook applications to Motif, modifying the interface along the way if required. An OpenLook migration kit that translates XView source code into Motif is being bundled free of charge with BX 3.0 for Solaris until the end of January 1994 - thereafter, it costs \$2,500 per licence. BX 3.0 is \$3,200 on Solaris for Sparc platforms and \$2,500 on Solaris x86, or \$1,000 for the Intel version until the end of February next.

HP HAS COBOL VERSION OF SOFTBENCH

Hewlett-Packard Co will announce two new COBOL versions of its Softbench application development tools and framework on November 29. COBOL SoftBench and COBOL/C SoftBench are targeted at applications developers that want to move their applications off the mainframe to HP/UX-based servers, without having to learn much about the operating system. Each comes with enhanced versions of tools already found in existing C and C++ releases, such as SoftBuild-SoftOption, a program builder that only rebuilds COBOL programs, and programs depending on them, as they change; SoftStatic, a static analysis tool that enables users to query specific variables and view the paragraph and program structure of an application graphically; SoftDM, a productivity tool that enables customers to use point, click and action commands on files; and SQL support for relational databases such as Oracle Corp's. The offerings also include new versions of Micro Focus's compiler, animator and profiler. Each tool has a common Motif look-and-feel, and can be integrated with about 75 encapsulated third party offerings - or custom-built products. More specifically, Cobol/C SoftBench was developed for building mixed-language applications written in both COBOL and C, and Hewlett-Packard claims that with it, programmers can learn and use C, while still working in COBOL. As well as the above, the product also offers an HP/UX C developer's kit, including a C compiler and HP/DDE source-level debugger. COBOL SoftBench and COBOL/C SoftBench will be available only under HP/UX from January, the former costing \$3,000 and the latter \$3,500. Nonetheless, applications developed using the tools can run under any environment for which Micro Focus has a compiler, such as Microsoft Corp Windows 3.1 and MacOS. Meanwhile, Hewlett-Packard has also announced it will port SoftBench to Stratus Computer Inc's fault-tolerant Unix operating system, FTX, and is working with Science Applications International Corp to port the SoftBench sub-process control daemon or distributed process management technology to it. This means it will be able to integrate SoftBench with other Stratus development tools.

CARRERA READIES 200MHz ALPHA PC

Carrera Computers Inc reckons it will be the first company to manufacture and sell RISC-based personal computers, containing a 200MHz Alpha AXP 21064 microprocessor from DEC. The new Hercules 200 will be priced 10% to 15% higher than the firm's Hercules 150, which sells in the \$4,500 range. Encased in a tower enclosure, it will contain the motherboard and 200MHz processor, 250W power supply, 512Kb cache, Windows NT operating system licence, 3.5" 2.88Mb floppy drive, three-button mouse, six EISA slots, two serial ports, one parallel port and keyboard and mouse ports. Hercules 200 systems are available now, but are not yet firmly priced. Carrera has also established a systems division to manufacture and market a new Pantera Series I and II line of personal workstations, using the 166MHz and 200MHz Alpha AXP chips (word is that overall, design constraints mean the low-end 166MHz version is slightly less powerful than the 150MHz). The firm will also offer the new workstations as OEM motherboards. The Pantera I will cost \$4,000 and house the 166MHz Alpha 21066 baby AT-sized motherboard in a standard desktop case. It features 16Mb memory, 128Kb secondary cache, a 250Mb SCSI hard disk, 3.5" 1.44Mb floppy, 230W power supply and a TGA accelerated video adaptor. The Pantera II will be \$7,000, with 200MHz 21064 64-bit RISC CPU in the same tower cabinet as the Hercules model. It will have 32Mb memory, 1Mb secondary cache, SCSI CD-ROM drive and a 500Mb SCSI hard drive, a TGA accelerated video adaptor and a 3.5" 1.44Mb floppy.

NETMANAGE SHIPS 3.311 OF X FAMILY

Cupertino, California-based NetManage Inc has released version 3.11 of its X product line, which enables users to run X-based applications side-by-side with their Microsoft Corp Windows applications. The X family comprises Xsession, which provides both a PC X server and TCP/IP protocol stack; Chameleon/X; and Chameleon NFS/X, which adds NFS client and server support for Microsoft Windows - this means users can share network files and printers from the desktop for \$790. Existing products have been enhanced in several ways: users can now choose between either a Motif or Windows look-and-feel; they can configure and administer their systems remotely because the X-remote protocol is now supported; and the X server component has been re-architected to exploit Intel Corp's 32-bit chip architecture.

PEOPLESOFT HAS HIGH HOPES FOR NEW UK SUBSIDIARY

Personnel software firm PeopleSoft Inc, has set up a UK sales and support office in Windsor, Berkshire, which it reckons will bring in revenues of between £3m and £5m within a year, all from new licences. It also forecasts staff levels will increase from six now to at least 25 this time next year. But within two years, the Walnut Creek, California-based firm believes the new operation will generate about 20% of its total turnover and show 100% growth year-on-year, soon becoming the largest subsidiary outside of the US. An optimistic prediction perhaps, but PeopleSoft is convinced it is the only vendor in its sector that offers true "client-server" applications, while "other people are scrambling to re-write their software". Its biggest competitors are SAP AG, which, it reckons, will take five years to get R/3 out of the door; Dun & Bradstreet Software, which may have the might of a strong US parent behind it, but also had trouble getting a client-server version of SmartStream to market; and Oracle Corp, which it attests has applications built on "yesterday's technology" - Oracle Personnel has sold about 10 copies worldwide, it says, while SequelForms is character-based, and does not have a graphical user interface. All of PeopleSoft's products are Windows client-based, but it generates about 30% of its revenues from mainframes, the rest from midrange servers, of which between 80% and 90% are Unix-based. The firm also has a Microsoft Corp Windows NT version of its software in beta testing and is planning a port to the PowerPC, running DB/2 and DB2/6000. But PeopleSoft reckons it has a further advantage over the competition in partnering such consultants as Andersen Consulting and Coopers & Lybrand. These companies promote its offerings, help it evaluate customers needs and then help it implement a suitable system. The group is currently developing a commitment accounting package for local governments as an extension to its Financials offering with Andersen, and the two will jointly market and sell it next summer. But this is not PeopleSoft's first venture into Europe. It set up European headquarters in Amsterdam about two years ago to support such multinationals as the above, and also established a Paris office a few months ago. It intends to open another in Switzerland over the next three months, and has distributors in Germany and Spain. It also hopes to sign one in Scandinavia this week, and intends to sell into former Eastern bloc countries by partnering with Oracle distributors. PeopleSoft localises all of its software at its regional offices - and UK-specific packages should be available in the next week or so.

JAPANESE RISC MANUFACTURERS PLAY THE GAMES MARKET

US reports say that Japanese RISC manufacturers are trying to give their chips a leg up by making a push into consumer markets, particularly computer games. Many have also started selling the processors to their sister computer and telecommunications equipment companies. NEC Corp, which claims to be the sole manufacturer of the Mips Technologies Inc MIPS R4200 chip, says it is talking to Nintendo about incorporating the CPU in its next generation of games. It has also developed a proprietary V810 RISC processor, which could well be used in its new line of electronic games. The group's semiconductor unit will sell the V810 on the merchant market too, and is producing Mips R4400s for NEC's new line of workstations and personal computers. Mips says 200MHz versions of the R4400 will be available soon. The Mips R3000 has been embedded in NEC's telephone switching equipment. Meanwhile, Mitsubishi Electric Corp's semiconductor division is reportedly doing joint research work with Digital Equipment Corp to explore the Alpha's potential in games and consumer electronics markets. And Hitachi Ltd's semiconductor business, which makes Hewlett-Packard Co's Precision Architecture RISCs, has developed its own SH series of proprietary RISC chips. These will be used as embedded processors in Hitachi's computer, consumer and telecommunications products as well as Sega Enterprises Ltd's next-generation games. Fujitsu Ltd, conversely, intends to make recent acquisition Ross Technology Inc's HyperSparc a keystone in its high-end workstations and servers. These machines, along with the chips, will be made in Japan. The Ross US operation will become a design and development centre.

OPENVISION TO SUPPORT DEC'S CORBA TECHNOLOGY

Distributed systems management contender, OpenVision Inc will this week announce support for Digital Equipment Corp's ObjectBroker, making it a key component of its product line in providing a common set of distribution services. The announcement, set for Monday November 29, will pave the way for another announcement the next day by Microsoft Corp and DEC linking Microsoft's OLE 2 scheme to DEC's ObjectBroker, something IBM Corp may also attempt to do with its System Object Model, pushing DEC into something of a power broker position. OpenVision will mean the OpenV*Environment 2.5, the foundation of its modular object-based services suite OpenV*OPSS, is based on the ObjectBroker technology. As a result, the stuff will reportedly be interoperable with multiple systems and network management devices, such as NetView and Hermes. OpenVision expects to use ObjectBroker for enterprise-wide information access, software installation and distribution, event and policy management, access to an enterprise-wide object-oriented database for application storage and retrieval and configuration management. It plans to provide a set of external adaptors for SNMP-based products, such as HP OpenView and SunNet Manager as well as IBM's NetView. ObjectBroker conforms to the latest CORBA 1.2 specification from the Object Management Group.

OPENVISION TALKS WITH IBM FOR RIGHTS TO NSL UNITREE

OpenVision Inc says it is negotiating with IBM Corp's Federal Systems Company (FSC) to acquire marketing rights to National Storage Laboratory (NSL) UniTree. UniTree is an hierarchical storage management system that was previously owned by Discos, a division of General Atomics - OpenVision acquired the firm and its products in February 1993 - but was developed by IBM's FSC and the Lawrence Livermore National Laboratory at the National Storage Laboratory. To date, NSL Unitree has been marketed exclusively by IBM FSC. If the deal comes off, and OpenVision is confident it will, the company plans to integrate its own version of UniTree with the NSL one. It reckons it could get NSL UniTree version 2.0 out by mid-1994, and will sell it through existing OEM channels, including Convex Computer Corp, Titan and Control Data Systems.

THEOS OFFERS LOW-COST MEANS OF CREATING MULTI-USER MS-DOS SYSTEMS

In the open systems world, multi-user microcomputer operating systems face a daunting task trying to survive against Unix, or NetWare in the MS-DOS and Windows world. But Walnut Creek, California-based Theos Software Corp is still around, and has popped up with a new variant of its Theos operating system, Theos DOS, which is a multi-user overlay for MS-DOS - 3.1 up - and will sell for \$600 for up to five users. According to *Newsbytes*, the idea behind Theos DOS is to enable users to attach slave dumb terminals to a top-end iAPX-86 machine, rather than have users link low-cost, low-power machines together in a network. "Theos DOS is very cost-effective for power users wanting to use a multi-user MS-DOS. The networking aspects of the operating system are not proprietary, and support NetWare, 3Com and LANtastic networks, meaning users can plug into those networks if required," Theos says. The company recommends a 33MHz 80386 with 4Mb for two users, a 25MHz 80486 machine with 8Mb memory for five users, while a 66MHz 80486 with 24Mb of memory will support 16 users - each user gets the performance of an 8MHz 80286 machine when all the terminals are active.

HP RACES AHEAD DOWN UNDER

Hewlett-Packard Co had a storming fiscal year Down Under, outdoing even its parent, *Newsbytes* reports from Sydney. Profits soared 160% to \$18.9m, on turnover up 34% at \$327m. "We've substantially improved our productivity," said managing director Bill Hilliard, adding that profit and revenue increases were achieved with no increase in staffing levels, although he conceded that delivery problems a year ago saw some of last year's business delayed into this year's figures. Exports made up 10% of turnover, with 85% of this coming from the Australian Telecommunication Operation, which makes testing equipment for digital communications lines - this business grew more than 120% over the year.

ONTOS UNVEILS NEW OBJECT INTEGRATION TOOLS, EX-IBMER FRANK CARY JOINS BOARD

Ontos Inc has just received \$8m in venture capital funding from a group of investors headed by JP Morgan Capital and Wolfensohn Associates LP, and will use the cash to prepare for the 1994 roll-out of products based on its new "Object Cohesive Enterprise" framework. Object Cohesive Enterprise is the Burlington, Massachusetts-based firm's new architecture for integrating object applications with commercial "legacy" ones. It will be announced in the first quarter of next year along with the first two products in the family, and enhancements to the group's database Ontos DB. A third product will follow in the second quarter, and others will appear during the course of the year. Ontos will sell this enabling technology direct to "end-user corporates", systems integrators and distributors, but will rely on value-added resellers to develop applications for vertical markets. Meanwhile, the company says it has appointed ex-chairman and chief executive of IBM Corp, Frank Cary, to its board because of "his understanding of IBM, which will be useful as we move into the commercial mainstream". Two other people "of equal stature" to Cary will be appointed to the board this week.

DEVELOPMENT OF OBJECT-ORIENTED COBOL STANDARD ON SCHEDULE

The first draft proposal for standards relating to object-oriented Cobol has now been written and will be passed to the X3J4 Technical Committee, which develops Cobol standards, for review in the first week of December. If accepted, it will go to the X3J4.1 sub-committee, which focuses specifically on object-oriented Cobol, at their next meeting in January - if not, in March. A working draft is scheduled to be sent to national bodies worldwide on December 1 1994. These bodies will take comments from any interested organisations and the review period will last for five months. The same process will be repeated the following year, and finally on October 1 1996, a draft international standard will be sent to the national bodies. This final review should last six months. The standard is scheduled for general release in early 1994, and will definitely include a port for an international character set; an exception handling facility; file share and record locking support; and enhancements to call statements, so Cobol can interact with C, C++ and other programming languages.

NOVELL INTEGRATES REACH SOFTWARE'S WORKFLOW TOOLS WITH APPWARE

Reach Software Corp has signed a joint development and marketing agreement with Novell Inc to integrate its WorkMan workflow application engine and WorkMap visual development tools with Novell's network application development environment, AppWare. Novell will also bundle run-time versions of WorkMan with its AppWare Loadable Modules, and WorkMap tools with its Visual AppBuilder to provide developers with graphical, object-oriented programming tools for building cross-platform workflow applications. The products will be distributed via Novell and Reach value-added resellers. Novell holds a 10% stake in the Sunnyvale, California company.

AMDAHL HAS NEW CONSULTANCY AND SUPPORT SERVICE

Amdahl Corp has come up with a new consultancy service, Enterprise File Manager, which offers to centralise the management and protection of critical business data in distributed Unix and personal computer environments, integrating a broad array of hardware and software to create a high-capacity, automated system for centrally storing and managing data. The service is tailored to a customer's individual needs, and supported environments include personal computers, workstations, minicomputers, mainframes, and supercomputers. Implementation from planning to final test normally takes six to nine weeks and, in the US, costs from \$50,000 to \$90,000.

JACQUES STERN INTRODUCES STERN COMPUTING SYSTEMS

Jacques Stern has now decided his Advanced Computer Research Institute parallel processing venture in Lyon will trade as Stern Computing Systems SA. Stern Computing will handle the sales of systems developed by the Institute, now a wholly-owned subsidiary, and also products jointly developed with partners such as Digital Equipment Corp - Stern Computing uses the Alpha RISC in its parallel machines. Architecturally, the ACRI-1 exploits the highest degree of functional parallelism possible inside each processor, the company says. It is a symmetric multiprocessing machine, and will run OSF/1 and existing Alpha AXP-compatible applications. Prototypes will be available in the second half of 1994, with first customer shipments towards the end of the year. Production quantities will start in 1995. Meantime, to help pay the bills, Stern Computing is marketing systems derived from DEC's current workstation and server line, with deliveries starting early next year. DEC has invested about \$500,000 for a 7% stake in Stern, which also has two joint ventures with Cray Research Inc. The ACRI-1 is claimed to deliver performance that matches low-end and mid-range Crays, but at \$1m to \$2m, about a third to a sixth the price of comparable Cray machines. It uses decoupled logic with a separate chip for each of the CPU functions - ordering data and instructions from memory; decoding instructions; and executing instructions. The ACRI-1 will have up to six of these three-chip units. Stern wants 10% of the worldwide supercomputer market.

SYSTEMS UNION PUTS SQL INTO ITS ACCOUNTING SOFTWARE

Systems Union Ltd, North London has done what it should have done years ago - namely put Structured Query Language functionality into its accounting software. The company has developed a function, Sunlink/Btrieve, which enables its SunSystems software products to save data in Novell Inc's Btrieve format. It has also built a Data Dictionary, giving third party developers access to SunSystems file formats, which means data can be accessed from third party applications directly without importing or exporting. To query the system using SQL, third party applications should comply with NetWare SQL, the company says, while Btrieve is included with Novell NetWare itself. The module enabling Systems Union products to link into Btrieve is priced at £3,800, while the products themselves range from £2,600 to £200,000.

BULL SETS OUT RESTRUCTURING PLANS

The proposed restructuring at Compagnie des Machines Bull SA has turned out to be a rearrangement of the furniture, although new chairman Jean-Marie Descarpentries reckons it could result in profitability a year earlier - by the end of 1994 - than projections by former chairman Bernard Pache. The group intends to implement a decentralised, inverted-pyramid style of management, with its customers at the top, whatever that means, and a 10-member executive board and consultative body of members from inside and outside of France advising top management. The company will be split into seven product and service divisions based on separate market sectors, which will operate autonomously. These comprise mainframes; open systems; personal computers; software; systems integration; customer services; and facilities management. Other details on the overhaul, such as cost-cutting plans and job cuts were not given. Descarpentries simply said the company would go for cost-reductions, such as overhead expenses, on the non-salary level first. Bull will also cut costs by cutting salary levels - presumably by job reductions and lay-offs, "if non-salary measures don't work". The Wall Street Journal reckons Descarpentries has a reputation for trying to apply what critics believe are excessively avante garde management techniques - he reportedly left Carnaud-MetalBox Plc with complaints that his style had been disruptive.

SLOVENIAN COMPANY ENGINEERS NEW OMNIBACK FOR HEWLETT-PACKARD

A little-known software engineering company in Ljubljana, Slovenia, Hermes Softlab, has been subcontracted by Hewlett-Packard Co's Network and Systems Management Division in Boeblingen, Germany to engineer and code the next generation of its OmniBack OpenView network back-up product OmniBack, sources at both companies say. This is not the first time that Hermes Softlab, founded in 1990 by four engineers as a spin-off from a larger firm, Hermes, has done development work for Hewlett-Packard. It also built the graphical user interface for OpenSpool back in 1989. Hermes Softlab currently handles back fixes and enhancements for OpenSpool and OmniBack. The new version, which is due out first for HP-UX systems, is scheduled for shipment in mid-1994.

EUROPEAN ROUNDUP

Syseca SA, a software and systems engineering subsidiary of **Thomson-CSF SA**, has sold its line of software products for Digital Equipment Corp systems to **Concept SA**. The accounting, sales and personnel packages were claimed to have an installed base of 350 sites and over 10,000 users in France at the end of 1992. Concept said the acquisition will effectively double its business on DEC systems and reinforce its ties with the computer maker.

Digital Equipment Corp's project manager for a \$12m project to supply the Hungarian Tax Authority with a new computer system, a certain Mr Brown, says it will be based on Alpha hardware. Some technical details, such as whether to use Oracle Corp or Ingres Corp databases, still need to be worked out.

Managing director of the joint venture between **Apple Computer IMC** and **SAD s.r.o.** of Poland, Bogdan Jedrzejczyk, says the company's turnover will exceed \$10m this year, adding he plans to set up a final assembly operation in Poland in the near future to supply the domestic market. It should create 100 jobs.

Tadpole Technology Plc, Cambridge has won **Siemens Nixdorf Informationssysteme AG** as an authorised reseller of its Sparcbook family of Unix-based notebook computers for use within the worldwide Siemens AG empire.

Siemens Nixdorf has also extended the agreement it has with **Oracle Corp** in Germany to the UK, whereby it will sell Oracle products bundled with both its own hardware and other vendors' kit.

Ian Edmonds is to head-up **Advanced Visual Systems Inc's** AVS/Uniras European operation, formed when AVS acquired Danish graphics software house Uniras A/S back in September. Former Uniras sales outlets in France, Germany, Italy, UK and Denmark will operate as wholly-owned AVS/Uniras subsidiaries. Edmonds, former president of Stardent Computer Inc, co-founded Stellar Computer Inc, along with AVS boss Bill Poduska.

Meanwhile, Klavs Landberg, former vice president of **Uniras**, has ended up at document management software specialist, Nashua, New Hampshire-based **Keyfile Corp** as vice president of engineering.

The Division Inc arm of **Division Group Plc** in Redwood City, California, has become a reseller for **Silicon Graphics Inc** in the US, mimicking its UK parent's agreement with the vendor in March this year. Division, which has already sold a \$500,000 system to Matsushita Electric Industrial Co with Silicon Graphics, will use the entire range of that firm's hardware in systems used mainly for computer-aided design, engineering and simulation applications. It will stage a product launch, probably at the I/TSEC simulation exhibition in Florida, at the end of this month.

IXI Ltd hopes to begin shipping versions of Win-tif in January. An initial implementation of the Windows look and feel for Unix applications - which comes embedded within its Motif-based IXI Desktop manager - will emphasise delivery of the Windows look, with some limited interoperability features; more functionality will follow.

Unisys Corp has signed for London-based **Data Connection Ltd's** SNAP APPN networked node software, the first non-IBM Corp implementation of the APPN, and will offer it as part of e/SNA, an enhanced version of its SNA connectivity system. e/SNA has six modules - e/SNA Gateway costs \$2,150 for up to 32 users - a range of application modules and APIs cost from \$1,840 each.

The French arm of **Thomson-CSF SA's** **Alslys Inc** has merged with consultancy and training firm **IGL Technology** to try and provide users in France with a broader range of software engineering tools and professional services. Although terms of the agreement were not disclosed, the deal now means Alslys SA has distribution rights to software engineering products from such vendors as Hewlett-Packard Co and Centerline Software Inc.

Ing C Olivetti & Co SpA is to sell 23.5%, half its holding, in circuit board firm **Teknecomp SpA** for \$10.2m to an international group. A bid for the traded shares will follow.

Market research firm **International Data Corp** will start a new service in Europe focussing solely on the workstation market as of January 1. The team will be headed by Lone Poulsen, and both local and pan-European information is on offer. + 45 31 18 63 44

MICROSOFT OUTLINES NT STRATEGY UNDER CRITICISM FROM GERMANS

Software developers at the Windows User Group meeting in Dusseldorf a couple of weeks ago criticised what they consider Microsoft Corp's unclear Windows strategy. However, according to *Computerwoche*, manager for developer services of Microsoft GmbH, Manfred Schindler, set about explaining what the group has in mind for the coming year. Beta versions of Chicago, or Windows 4, will be released in December, and will start shipping in volume by the first half of 1994. Cairo, the object-oriented version of NT, should be released by early 1995, depending on how the market develops for the product. Schindler also made it clear that NT made too many demands, performance-wise, on the front-end to be just a high-end operating system for personal computer clients - which is where Microsoft had formerly positioned it. The problem is many software houses feel compelled to continue investing in NT applications that aren't destined to go to their original target market. The situation won't be quite as bad though, if these applications can be ported to Chicago - even if it means adapting a new front-end. A critical factor in all this will be bridging the gap between NT and Chicago's debut in less than a year - if current cycles are anything to go by, much of the technology in existing NT applications, such as dialog boxes and front-end functionality, will be old-hat in about a year and a half, in which case only about 20% could still be used.

SUN OFFERS BYPRODUCTS OF ITS EXPERIENCE TO DOWNSIZERS

As expected (UX No 462), SunIntegration Services unit has a new set of downsizing tools for helping users to move from mainframes to client/server systems. The Sun Enterprise Toolset was developed to help the company's own internal migration programme - though Sun's Amdahl Corp mainframe won't be turned off until next year - and includes five packages: SunDans is a distributed network software administrator; SunRai interfaces Unix applications with those on the system being replaced - and enables client/server relational and IBM databases to synchronise transactions; Paperless Reporter can pull reports off a variety of systems and distribute them to local servers; ConsoleServer enables local and remote systems to be controlled from a single location (and console functions to be accessed from remote locations); DataCenter Scripts help automate data center administration tasks and handle three areas, system administration collection and Sybase and Oracle administration collection. The tools are available next year - and others will be added - SunDans costs from \$250 per user in a 500 user system; SunRai is \$20,000 per application-to-application connection; Paperless Reporter costs from \$750 per user in a 50-user setup; ConsoleServer is \$4,500 per administration console and DataCenter Scripts source code licences are priced between \$10,000 and \$18,000. Talking-up the benefits of downsizing strategies, Sun points to its own experience, saying that, since it began to downsize its own operation back in 1989, its information technology expenses have declined from 7% to 4% of sales, while over the same period the company doubled turnover to \$3.4bn, reduced capital commitment cycle from 274 to 139 days, took inventory turns from four to 11 and increased employee revenue from \$175,000 to \$348,000. The new toolset is expected to compete with Computer Associates Inc's CA-Unicenter host system management package, a Sparc version of which is being readied for introduction in the second quarter of next year.

NCR OFFERS VOLUNTARY TERMS IN AN EFFORT TO SHED 4,000

AT&T Co's NCR Corp last week announced a voluntary redundancy programme aimed at 25,000 of its 27,000 employees, and hopes between 3,250 and 4,050 will accept. The costs will be taken as a charge against first quarter 1994 figures. Eligible employees with at least one year's service as of February 11 next year will receive a package of enhanced benefits if they notify NCR between January 3 and 31 that they plan to leave on February 11. Some 5,500 over the age of 50 with 10 years or more service are also eligible for early retirement. The company's latest reorganisation calls for fewer layers of management between NCR and its customers. A typical employee will receive roughly one week's redundancy pay per year of service.

SUN'S RATING IS TRIPLE B FROM STANDARD AND POOR'S

Sun Microsystems Inc, Mountain View, California, has been awarded an implied triple-B senior debt rating by Standard & Poor's Corp. The rating is an indication of Sun's general credit strength, and is not being assigned to any specific debt issue. But as an investment grade or blue chip rather than a junk rating, it is a significant fillip, reflecting Sun's "leading market position in the fast-growing and highly competitive workstation market, and its strong balance sheet. Sun's historical focus on the workstation market has been both its competitive strength, and a potential long-term vulnerability. Strong technology and product development skills have enabled it to build on its leadership position in the area - its share of the workstation market has increased from 29% in 1990 to 38% in 1992. But, Sun has been dependent on a narrow product and market base to support earnings and cash flow. As a result, its profitability tends to fluctuate with the success and timeliness of new product introductions, and operating margins have ranged between 13% and 18%. Going forward, Sun wants to further expand its penetration of the commercial and network server markets," Standard & Poor's said. "Sun has improved its balance sheet and financial flexibility over the past several years. Total debt to capital of 25% (including capitalised operating leases) is moderate for a technology company, and is down from 39% in 1990. With good asset management and expense controls, Sun has used cash flow to build up cash balances in excess of \$900m as of September 26. That cash provides an important cushion in an industry characterised by volatile growth, intense competition, and short product cycles. The outlook is stable. Although Sun has a growing base of commercial and network server revenues, its reliance on the relatively narrow workstation segment will limit the potential for rating improvement," but its "strong market position, moderate leverage, and excellent cash position provide downside protection," Standard & Poor's said.

PARCPLACE SYSTEMS OUTLINES ITS PLANS FOR VISUALWORKS

ParcPlace Systems Inc says its VisualWorks object-oriented application development and deployment environment for Microsoft Corp's Windows NT has now gone into beta testing, and expects to announce the port with version 2.0 of the product next year. One of the main features of the new release will be enhanced database connectivity. The Mountain View, California-based company is also working with Sun Microsystems Inc to support the latter's Distributed Objects Everywhere object layer. And it has just signed a joint development and marketing deal with Object Design Inc to establish a standard interface between SmallTalk and object-oriented databases - this will be submitted to the Object Database Management Group for approval when the time is right. ParcPlace will also ensure VisualWorks customers can store information in Object Design's ObjectStore database as transparently as possible, while Object Design works on a SmallTalk-based interface to its database. These products are expected to go into beta testing in the first half of next year, into volume release in the second half.

MITSUBISHI "HAS FASTEST NEURAL SYSTEM"

Mitsubishi Electric Corp claims to have the fastest neural computer yet, reports *Newsbytes*. It is based on an analogue neural network board, which the company claims runs at 20 Tera-operations a second, about 1,000 times faster than the fastest existing supercomputers. The board - measuring 13.3" by 21.6" - packs in 18 proprietary neural chips, each integrating 1,800 neurons. The board is designed to plug into the bus of an engineering workstation. Mitsubishi Electric plans to refine the device further and offer it for speech recognition systems and graphic processing within three years.

NKK TO MARKET CONVEX PARALLEL BOXES

Steel maker Nippon Kokan KK is to market the parallel processing supercomputer developed jointly with Convex Computer Corp from next spring. NKK has handled Convex sales in Japan since 1988, but according to *Jiji Press* has sold only 10 units in the last two years. NKK's managing director, Kazuo Kunioka, said the company hopes to gain between 20% and 30% of the Japanese parallel computer market. Cray Research, Fujitsu, NEC Corp, Thinking Machines Corp and Intel Corp are the competition.

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Since the dissolution of the **Open Software Foundation's** Distributed Management Environment, the dismemberment of Unix International and the ensuing confusion over who is doing what and why (UX Nos 456, 460), the systems management issue seems to have been put on a back-burner for the time being at least. X/Open Co is set to receive systems management specifications on behalf of the COSE firms to fast-track them in the same way as it did the Common Desktop Environment. But it says it no longer expects a submission from COSE until the middle of next year, although there will be some discussion about it next quarter.

Rumour has it that **Sun** chief Scott McNealy has been in Bob Palmer's office lately. **IDC** analyst David Smith reckons that if such a thing were true - and he can't say one way or another whether it is or not - he would bet McNealy was there trying to sell them on Solaris.

In an ironic touch, McNealy and **Next's** Steve Jobs turned up for their Tuesday meet in matching black polo-neck tops.

We don't have an explanation yet, but it seems that the **X Consortium**, newly out from under the wing of MIT (UX No 462), has lost president, Luther Abel, after having lined him up with some considerable difficulty. Founder Bob Scheifler, who was scheduled to stay until February, is now acting director.

Our sister publication **Client Server News** recently reported that IBM, Sun and DEC are quietly working together on an informal basis to move Intel emulation onto their respective chips, describing Wabi as just the "tip of the iceberg." Well, you can throw HP into that mix as well.

Although US reports say **SunConnect** is expected to announce a deal with **Netlabs Inc** to incorporate the Anaheim, California-based firm's DiMONS 3GL object-oriented network and systems management software in the next version of SunNet Manager (UX 464) on December 6, company officials are still hotly denying the fact. SunConnect does admit, however, that it is holding discussions with Netlabs to put its applications, which include visualisation software, up under SunNet Manager.

You can't believe everything you read. A case in point is the recent estimate by the press that Ray Noorda, befuddled by memory lapses, has now entered his dotage. Don't count on it. Competitors like Scott McNealy, admitting to suffering a few short-term memory losses of his own, aren't buying it. Novell says *Business Week* interviewed around 25 people for the story, but spent only about 15 minutes talking on the subject, which came to dominate the story. Novell's board is too tame to do any pushing, and we would suggest that Noorda, in his own canny way, is using it as an excuse, having other fish to fry besides Novell. Mark our words. We also reiterate that he's likely to make a move before June.

Novell Inc says Darell Miller will retire as executive vice-president corporate marketing and strategy, effective December 9.

IBM Corp hasn't forgotten its promise to make OS/2 2's requirement for memory a trifle less gross, and according to *PC Week*, one of the developments in the pipeline, for launch shortly, is a version trimmed down to 4Mb. Another new OS/2 2.X upgrade after mid-1994 will incorporate additional features such as object technologies and OpenGL graphics, according to IBM executives.

Apple Computer Inc and former top manager Albert Eisenstat have settled their differences and his suit against the company was dismissed after the two parties entered into mediation that determined that "the allegations contained in Eisenstat's complaint were not supported by the facts"; the suit was dismissed with prejudice, meaning that Eisenstat, 63, cannot resurrect it.

Microsoft Corp is almost ready with a substantial upgrade of the rather lacklustre Windows NT. *PC Week* reports. The main aims with the upgrade, referred to internally as Windows NT 3.11 - are to slim down NT's ludicrous volume and improve performance, although the company says NT will never reach the 4Mb threshold targeted for Chicago, the next major version of Windows. Microsoft officials have also said that a version of its DoubleSpace disk-compression software will be included in the next release of NT, as will **SGI's** OpenGL three-dimensional graphics technology - plus bug fixes so far.

Oracle Corp and Novell Inc are ready to ship the initial product in their OracleWare family of bundles early next month. Called OracleWare System - NetWare Edition version 3.12, it comes on CD-ROM and includes NetWare 3.12, Oracle7 Server for NetWare, Oracle Office, Oracle Glue, and on-line integrated documentation, at \$3,100 for a five-user licence. The UnixWare edition will be out in first quarter 1994 and the NetWare 4 by mid-year. UnixWare 1.1 is also scheduled for release in the first quarter, most likely January.

Portland, Oregon-based **nCube Corp** says it plans to go public in 1994. The company has not yet sold a machine to any cable or regional Bell operating companies for use as a multimedia server, but talks are continuing.

Don Taylor, Sun's UK director of marketing, Northern Europe, has joined **Sybase Inc** as vice president of marketing, channel development, Northern Europe. He'll report to Rob Albers, vice president of European operations and Stu Schuster, vice president of worldwide marketing. Meanwhile, Sybase's new UK managing director is Hugh McCartney. He takes over from Vince de Gennaro.

You have to laugh - and now that **Wang's** safely out of Chapter 11 bankruptcy protection, it wants the world to laugh with it - it is announcing its comeback to the US television viewer by blowing itself up - the new commercial shows an office building topped by the old Wang logo being demolished with explosives, and then, amid the rubble, a single flash of light glows. The camera homes in on the light to reveal a video monitor listing Wang's new businesses, software and network integration, as the voice-over says "On September 21, a new Wang sparked to life - true innovators never die, they just reinvent themselves" and the new Wang logo appears - aaah!

Silicon Graphics has named two of its veterans to its board, Robert Bishop, president of Silicon Graphics World Trade Corporation, and Tom Jermoluk, EVP and chief operating officer.

The **Santa Cruz Operation** is losing senior VP Sam Spadafora, general manager of its worldwide field operations at the end of the December. He's going with an applications company. SCO president and CEO Lars Turndal will be picking up Spadafora's responsibilities when he leaves.

Sun is apparently getting worried that its "mail-order" mentality as far as service is concerned may be having a deleterious effect. It's been conducting a survey to find out how it's regarded.

Under his separation agreement with **Apple Computer Inc**, former chairman John Sculley collected \$4m last month, and that's before the company buys his \$4m house and Lear jet, the *Wall Street Journal* reports. Sculley, now chairman of Long Island firm Spectrum Information Technologies Inc, received a year's salary - \$1.06m - in severance, plus an estimated \$413,000 bonus, a \$750,000 consulting contract and \$2.4m for unexercised stock options. Apple also agreed to pay a "fair market price" - \$3.95m - for Sculley's Woodside, California house, and to buy the Lear jet it has leased from Sculley's LAS Aviation Inc for the last two years - Apple paid \$616,320 to rent the plane last year. To ease Sculley's transition back to the East Coast, Apple will also pick up his moving expenses. He gets a \$1m salary from his new firm, plus stock options, based on Spectrum's share price when the compensation package was announced - this should leave him with a tidy profit of \$72m.

Louis Gerstner has won a few plaudits for appearing to be quick to acknowledge and rectify mistakes: he appointed Bernard Puckett senior VP, strategy and development in June, but now Puckett is leaving the company. James Cannavino, senior VP and general manager of Personal Systems, takes over the strategy and development portfolio; a successor to Cannavino is to be named "in a few weeks".

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X/OPEN MUSES OVER TIVOLI SYSTEMS MANAGEMENT SPECIFICATION

Distributed systems management equals confusion, right? Take a step back. Earlier this year X/Open Co put out a request for proposals for a set of distributed management specifications. But it got no "acceptable" responses, and closed the thing during the summer. As part of its open process, X/Open members can propose a submission for consideration as a possible standard whenever they like. Tivoli Systems Inc has been working on a proposal based on the not-yet-available TME 2.0 framework since March, and handed it to X/Open on November 5 (UX No 460) just a few weeks shy of X/Open's systems management meet last week. Technology outlined in a NetLabs Inc proposal received around the same time was deemed not directly applicable to what X/Open had in mind for distributed management, but was passed on to another X/Open working group for closer examination. Meanwhile, COSE gets itself off the ground and sees the sense in working hand-in-hand with X/Open to find an acceptable solution to the difficult problem. X/Open's systems management working group met last week to consider the Tivoli proposal. After some wrangling over detail, it eventually decided that the proposal warranted an e-mail vote that will happen on January 8th. This vote will decide whether the Tivoli submission, a 200-odd page tome that draws heavily on the Object Management Group's CORBA 1.1 specification, should be considered in more detail and eventually go forward to the relevant X/Open committee to be evaluated as a full X/Open specification standard. After evaluation of the spec - and that includes Tivoli making all the changes recommended by the committee - then, and only then, would it go before the X/Open membership for ratification or rejection (though, in practice, X/Open would be unlikely to invest all its time and resources on developing a specification that wasn't likely to get the nod from members). Given that there are a host of players lining up with their own object-based systems management solutions - HP, IBM, DEC/Microsoft/OpenVision, Open Software Foundation and Sun - Tivoli won't have the field all to itself much longer. DEC and OpenVision have already said they'll submit, others are sure to follow. However, whether X/Open will make another stab at a request for proposals remains to be seen. It is not in the business of creating or defining technology, rather it aims to standardise on technologies proven in the market, whether they are specifications for interfaces or specifications for a broadly accepted implementation. Insiders say the various technologies first need to be proven in the market in any case, and that firms are already working with users and organisations on finding a process that embraces CORBA, X/Open and interoperability between different offerings. So, we are more likely to see some kind of unified framework that will eventually be offered up as a proposal. Watch the cross-licensing deals.

TALIGENT LIFTS VEIL ON BETA RELEASE

Like in a game of pass the parcel, Taligent Inc takes a bit more of the wrapping off its object-oriented Pink environment with every call. Last week, vice president of marketing, Stratton Scavos, revealed new details of the company's product release plans, and provided a fuller picture of the architecture itself. Pink - a naming process is still underway, though code-names abound - will eventually be delivered as three separate product components. The application environment will be around in software development kit form - release 1.0 of two beta SDKs planned - from springtime next year. The company is shooting for beta releases of the other components - a development system and object services (the Mach-based system software) - towards the end of 1994, with general 1.0 releases of all three modules due between 9 and 12 months thereafter. Slated to appear in versions for PowerPC and Intel Corp hardware, and on PowerOpen, AIX and OS/2 operating systems - that's probably six ports already - the IBM Corp/Apple Computer Inc venture still promises other "volume" ports, including other Unix variants and on other CPUs. The range of answers it supplied to the question suggest Taligent is still figuring out whether to head for Windows NT or Chicago as a Microsoft Corp platform for Pink, if indeed it goes with a Microsoft version at all. Not surprising given the amount of work it still has to do on a system which is currently years rather than months away. Despite bullish claims of an NT port by IBM senior vice president of strategy and development James Cannavino, Scavos says Taligent is only doing investigative work with Microsoft. Meanwhile, Taligent, which according to Scavos, is coming in "under budget" in relation to what was first put into the venture, and ahead of schedule, is still scouting for sugar daddies, and has broadened its quest to Japan, and more recently Europe too. Although it has sought other investors since its formation in March 1992, so far it has none. The well-known deal to bring Hewlett-Packard Co in as a partner earlier this year never got inked. Details see page 2.

OPEN VISION-USG DME DEAL IN LIMBO

The deal that would have helped Open Vision Inc pick up the pieces once Novell's Unix Systems Group decided not to honour its Distributed Manager (DM) pacts has itself fallen over, reportedly weighted down by USG demands. The situation has so provoked Unisys that it is reportedly thinking about suing Novell. Unisys, Pyramid Technology and Siemens Nixdorf were the applications providers in DM, a derivative of the Open Software Foundation's Distributed Management Environment (DME 1.5) that USG's predecessor, Unix System Labs, bought outright (but only for SVR4 platforms), then spent considerable money and manpower reworking. USG, distracted by parent Novell's Distributed Management Services (NDMS) scheme, is now no longer interested in DM. Yet just before Open Vision, reportedly backed by the applications providers, was to step in and salvage things, USG appears to have changed the terms of their understanding (UX No 460), insisting that they adhere more closely to the DM framework, derived from an early Tivoli rendition, for a longer period of time than they were willing to do, and offering Open Vision only a non-exclusive deal, requiring two years of support, maintenance and extensions plus passing financial obligations through. Open Vision found these terms unappetizing, but USG has reportedly made no attempt to mitigate them in the month the deal has been in limbo. Pyramid, meanwhile, is reportedly owed a substantial amount of money.

SUNSELECT SHIPS WABI THIS WEEK

SunSoft says it will start delivering Wabi to end users this week. It was supposed to be November, but was postponed while they fiddled with it a bit longer. SunSoft has been distributing coupons with packages of Solaris 2.3. It says its reason for doing so is to be able track Wabi and get an idea of the level of interest. It says it does not yet know whether it will continue with the coupon scheme past December 23 when its offer of a free Wabi is supposed to expire. Sunselect claims it is not sure whether it will then put Wabi on the price list instead. Meanwhile, Microsoft says it has heard from accounts that Excel 5.0, which is still in beta, and Word 6.0, which has just shipped, won't install on Wabi, reportedly because of the OLE 2 code in them.

TALIGENT'S THREE PART OBJECTIVE

Taligent Inc will deliver Pink, its object-oriented application environment, as three separate product components, and has started talking in detail about the architecture, reports William Fellows.

The Taligent application environment includes a set of object-oriented frameworks that vice president of marketing, Stratton Sclavos, claims have richer functionality than rival offerings including support for two-dimensional and three-dimensional graphics and photorealistic imaging: "Renderman on steroids." The frameworks provide basic utilities and building blocks, but can be customised by developers. The environment will ship with 100 frameworks, Sclavos says, the user interface, multimedia, imaging, device drivers, printing, networking and file system.

The development system, built out of frameworks, can be used for browsing, linking and code navigation, and as a means of customising and extending the frameworks themselves for tailored programmes which are then compiled for use. The frameworks themselves are collections or bundles of class libraries - objects that each have specific functions. Each has an associated client application programming interface (API), which is used to subclass the library, and a framework API which provides the customisation facilities. Application code generated calls the framework through the client API. Sclavos says a developer can customise as many or as few frameworks as he or she requires without encountering any interoperability problems. In any case frameworks in the application environment should be able to account for at least 80% of any program's functional requirement - only the value-add has to be worked on. What it saves, argues Sclavos - and this is a cornerstone of the philosophy of object paradigms - is the need to write hundreds of thousands of lines of code for each new application. He says Taligent engineers have built client/server applications with just tens of line of code, which in turn inherit the 750,000 or so in the application environment - see below.

The object services layer, the Mach 3.0-based microkernel operating system which Taligent is working on with IBM, provides message-passing, synchronisation services, low-level memory, bus and driver support. Although all three components of Pink will be individually portable, the microkernel is the native foundation for it, and is optimised for it.

Pink is described as a fine-grain system written in C++. Sclavos says the firm hasn't yet decided whether it'll make use of IDL - the Object Management Group's interface definition language for allowing objects to be recognised under different object environments - as it believes that whilst IDL is fine for cross-environment purposes, the Sun Microsystems Inc-developed language isn't so good for fine-grain homogeneous object systems.

Deadline

Pink will support OMG's Corba, Open Software Foundation Distributed Computing Environment, Apple's OpenDoc and Microsoft Corp Object Linking & Embedding. However, Taligent remains shy of revealing its plan, if any, to address OMG's request for specifications for interoperability technology for use in the next-generation Corba 2.0 request broker architecture. Sun together with new partner NeXt Computer Inc, and now DEC and Microsoft Corp - see page 3 - have already made their plays. Sun, HP and IBM were originally thought to be looking at a way of submitting a joint proposal based on their common static binding approach to passing objects across distributed heterogeneous environments. The DEC and Microsoft specification uses alternative, dynamic techniques. Sclavos was unable to say whether Taligent will offer a submission, join another, or make OMG's December 7 deadline at all.

Pink, says Sclavos, has come a long way from the way it was originally conceived. Its not a desktop operating system replacement, rather a client/server environment with separate product pieces - more of a "super-client" rather than a server per se, he argues. The idea of creating a new Mac-type environment soon went away when the fledgling venture went off and talked to potential customers about graphical user interfaces and objects.

International transliteration

Taligent was showing the latest incarnation of Pink under non-disclosure at Comdex a couple of weeks ago and ran the stuff - "as an application, not a new technology demonstration" - past 60 independent software vendors and 30 corporate customers (plus press and analysts which inked the document). Sclavos claims 100 ISVs and 100 corporates are using early releases of the product, which comes with 32 applications, most created by a four-person team at Taligent. The applications - four supplied by unidentified ISVs - have been created to demonstrate Pink's functionality in areas like two-way, real-time operations, showing multiple data line windows concurrently and international transliteration (the direct translation of the words

on the screen into a foreign language). The developers used less than 10,000 lines of new code in total, says Sclavos, picking up whatever else was required from the frameworks. Don't get the wrong idea though, Taligent is not, and won't ever be in the applications business, he says. In addition, Pink will run 32-bit Unix, Windows and Macintosh applications and users will be able to work with tools from their native operating systems. The technology may be great, but Sclavos' main problem still appears to be selling a system that won't be out until the middle of 1995 at the earliest. Following its agreement with NeXt (UX No 464), Sun can now offer a working object environment, NeXtStep, that's been out in the market since 1989 and Microsoft's Cairo solution will be available by that timeframe too.

SUN POURS OIL ON TROUBLED COSE WATERS

The new Sun/NeXT alliance and Sun's two-week-old announcement that it is licensing the NeXTStep application development environment and interface for its Distributed Object Everywhere project has set off a flurry of concern among the pundits as to the stability of COSE. International Data Corp, for one, issued a Fax Flash on the day of the announcement, saying it was a "COSE crusher" that threatened to do serious damage both to COSE itself and the Common Desktop Environment (CDE), on which the COSE companies previously agreed. Such an analysis appears to have started a tempest in a teapot about where Sun's loyalties actually lie, with fellow COSE companies, specifically IBM, HP and Novell, reportedly beset by questions from the press. They finally asked Sun to put together a reassuring public statement. Sun is both pleased with its one-upmanship, but also anxious to pour oil on troubled waters. It has also been quick to point out that it did pursue the "COSE process" in cutting the deal with NeXT, and after all, did get NeXT to open up its interfaces. Moreover, it hopes NeXTStep will become an extension of CDE and be adopted by other COSE members. It adds that its move to NeXt in no way implies any diminishing of support for CDE, which it will continue to recommend to the vast majority of software developers as the environment to follow. Those of an object-oriented bent will be advised to go for NeXTStep when it becomes available next year.

DOE IS BASIS OF OBJECT-ORIENTED SOLARIS

It turns out that SunSoft's Distributed Objects Everywhere is an umbrella term for the next object-oriented version of Solaris. Object elements, such as interprocess control, are already being incorporated into the operating system via the Spring project, but the full object release will include SunSoft's ONC+ networking services; compliance to the Object Management Group's Common Object Request Broker Architecture and Sunsoft's Common Object Services Standard (UX No 460); its Distributed Object Management Facility or system call layer; and, of course, NeXT Computer Inc's NeXTStep application development environment and interface (UX No 464) - "we're great at the plumbing", SunSoft notes, "but not so good on the toilet seat". It also reckons an object version of Solaris will make it the only vendor to offer a truly distributed operating system - both Microsoft Corp's Cairo and Taligent are simply "a PC on steroids", it declared.

HITACHI TO JOIN PARALLEL FRAY

Hitachi Ltd says it will introduce massively parallel computers onto the Japanese market next year, and aims to sell them mainly to government agencies. But it is unclear whether the group is designing its own or intends to market a US machine. If the latter applies, the most likely choice is the machines that Convex Computer Corp is developing, since they use the Precision Architecture RISC chip, which Hitachi has adopted. Hitachi says its machine will have 128 processors, with 20 GFLOPS peak performance.

UI WIND DOWN MAY, OR MAY NOT, LEAD TO NEWORG

Jeremy Thomas, chairman of the executive committee of Unix International and one of those instrumental in setting up the organisation back in 1988, was still gathering formal approval from its board of directors last week over the recommendation to wind down operations by year-end (UX No 463). As we reported, the move is unlikely to be opposed, and senior members of UI, currently employing 18 people in Parsippany, New Jersey, will finance its orderly closure. On-going committee work is all likely to be passed on to X/Open. For UnixWare users, a "highly focused" Novell user group is expected to appear. Thomas is at pains to point out that, at least in the eyes of UI members, the organisation has achieved much over the last five years, winning the battle to get SVR4 accepted as the industry standard operating system interface. The Spec 1170 alliance and Novell's decision (a "courageous" one, says Thomas) to give the Unix brandname to X/Open means that their task is over, he declares. Anyway, he adds, consortia are not formed in the normal course of events; they only get together when they really have to. UI held a debate through the Summer and Autumn over what its future should be - whether it should continue in any other form, and whether or not it could offer anything that X/Open and others could not. "We could not see any strong enough reason - we had achieved our goals", he says. Concerning NewOrg (UX No 464), Thomas says the debate is still very much open. There are three views. The first says X/Open is sufficient to take the future process forward, with individual or groups of companies proposing extensions and initiatives such as COSE. The second (at one time favoured by Hewlett-Packard) prefers the idea of setting up a core secretariat of five or six people to handle logistics. The third is for a well-funded, 100 person organisation such as NewOrg. Thomas himself appears to lean towards leaving everything to X/Open - in any case, he says, the inevitability of NewOrg is not yet accepted, and the debate continues. Indeed, the economics of such large groups, the obvious current example being the Open Software Foundation, now firmly into value-add rather than operating system development mode, are looking increasingly untenable in the current economic climate. SunSoft's Jim Billmaier sees the situation in a similar light. Although discussions have been going on for about a year, he says, they are still at "the formative stage" and "haven't yielded anything solid". While he supports the idea of a "lightweight organisation", he is not convinced of the need for a formal body and is "happy with X/Open". "The COSE process was informal", he declared, "and COSE managed to get CDE out the door".

INSIGNIA WILL SHIP SOFTWINDOWS

DECEMBER 15 - SIGNS HP FOR DISTRIBUTION

Insignia Systems Ltd will finally begin shipments of SoftWindows, its Microsoft Corp-blessed Windows-under-Unix rival to SunSelect's Wabi on December 15, and says Hewlett-Packard Co (a Wabi OEM) has agreed to distribute the product in Europe. The High Wycombe, Berkshire-based company is discussing a similar deal with HP in the US, although nothing is inked, and negotiations with other firms are underway. SoftWindows will initially be available on HP 9000s and Sun Microsystem Inc Sparc boxes, but should be up on Silicon Graphics Inc workstations, Digital Equipment Corp Alphas and IBM Corp RS/6000s by March 1994 - there is only one version for both PowerPC and Power-based RS/6000s, however. Insignia says SoftWindows can spot differences in instructions at the machine-code level and execute different instructions for different machines. The firm reckons it should be able to generate \$30m in product sales in the first year alone, and believes it will be able to grab up to three-quarters of the market "on neutral platforms such as HP, Silicon Graphics and DEC", although it acknowledges it will have to fight to win Sun and IBM accounts over Wabi. Insignia claims SoftWindows is quicker than Wabi in most aspects - independent observers says it's up to four times as fast - although it does not provide emulation for Intel 80386 architectures. SoftWindows will start at £425 for a single user licence with each additional copy costing roughly £300 up to 50 users.

DEC TO HELP MICROSOFT TO BRING OBJECT LINKING 2 IN FROM THE COLD

In a move to reconcile the chasm between two key emerging object-oriented standards, Microsoft Corp and Digital Equipment Corp duly announced a new bridging technology that enables Microsoft's Object Linking and Embedding 2.0 specification to comply with DEC's implementation of the Object Management Group's Common Object Request Broker Architecture. The technology is called the Common Object Model, and according to DEC, will not only enable OLE to retain its own object model, but will also manage the exchange of objects between OLE and CORBA without Windows or Unix applications being modified. The technology will include an object adaptor from DEC, which translates an Object Linking & Embedding object into a CORBA object or vice versa, and an object request broker gateway, which will send and deliver messages between OLE and CORBA. Also included are systems management and object services from Santa Monica, California-based Candle Corp, which will sit between the two different technologies. Other third party software developers such as Cognos and SAP AG will be able to license the technology to develop off the shelf applications and tools with Common Object Model-ready attributes embedded in them. The Common Object Model is expected to ship by late 1994. DEC and Microsoft also plan to submit the Common Object Model specification to the Object Management Group for ratification.

MICROSOFT AND QUORUM SLASH PRICES OF BUNDLE SOFTWARE

Microsoft claims the idea of cutting prices on its Word/Excel bundle with Quorum's Equal applications adapter is Quorum's, which makes us suspicious that Quorum sales haven't been all that hot. But as Quorum has yet to publish its accounts, none can be certain (UX No 464). The pair last week cut the price of the formerly three-piece bundle from \$1,295 to \$299 each for either Equal with Word or Excel. Quorum indicated that the move, which brings it in line with personal computer prices, has deeper implications for it than appear on the surface. First, it said that its recent experience in the market, indicates Unix can no longer be sold at premium prices. It also stated its intention to approach other third-party software companies about application-specific bundles on Equal, effectively becoming something of an applications broker. Second, Quorum anticipates adding other Microsoft programs, probably beginning with other members of the Office line. Quorum and Microsoft are currently touting the new pricing as an upgrade, available to users who can prove they bought any Unix spreadsheet or word processor or any version of Lotus, Borland or Wordperfect. Users of Macintosh or Windows versions of Word or Excel can transfer their licences and get Equal for \$598.

KALEIDA OUTLINES INTERACTIVE MULTIMEDIA OFFERINGS

Kaleida Labs Inc, Motorola Inc's Semiconductor Products Sector and Scientific-Atlanta Inc have outlined their plans to use Malibu, a Kaleida-designed and Motorola-produced graphics and memory-controller chip, in a Scientific-Atlanta set-top terminal for delivering interactive and multimedia services to the home through broadband television networks. The aim is to provide a system optimised for the playback of multimedia content. The system uses the Kaleida ScriptX multimedia scripting language; it is optimised for use with PowerPC-based systems; supports display of high resolution text and enhanced two- and three-dimensional animation and graphics, and embraces MPEG standards by providing for direct connection of a wide range of video and audio decoders. Motorola will manufacture Malibu and make it available to Scientific-Atlanta and others, while Scientific-Atlanta will implement Malibu in a home communications terminal; no dates.

MOTOROLA FAULT-TOLERANT UNIX BOXES

As expected (UX No 458), Motorola Inc has started shipping the first of a series of new fault-tolerant Unix machines, based on its 40MHz 88110 chip. The SeriesFT family is aimed primarily at the telecoms market and at areas such as command and control systems for the emergency services, and has been sold internally for about a year - the new boxes support the Signaling System No 7 telecoms protocol for intelligent networks, primary and basic rate ISDN, X.25, T1 and E1 fast packet circuits, frame relay, SNMP and CMIP as well as TCP/IP, NFS and RPC, but the next step will be to integrate switching functionality into them. Motorola will now sell its new offerings via systems integrators, OEMs and value-added resellers such as British Telecommunications Plc, GEC Plessey's GPT Communications Systems, and LM Ericsson Telefon AB. It is also discussing network applications with such companies as Logica Plc and Electronic Data Systems Corp. Motorola reckons one of the main advantages of its systems over such rivals as Stratus Computer Inc's is that they are binary-compatible with its commercial Series 900 boxes and embedded MVME187-197 single board computers for use in such devices as intelligent switches in local telephone exchanges - each of these systems run SV/88 R4, Motorola's fault-tolerant version of SVR4, which includes fail-safe drivers, disk mirroring, a real-time user-controlled process scheduler, and a C and C++ development environment with a graphical debugger. They also support off-the-shelf Unix packages, such as billing systems, and all the major relational databases, including Oracle 7.0, Ingres 6.4 and Informix 5.0. The SeriesFT family comprises three models: the entry-level rack-mounted model 520, which has two CPU sets, each containing one 8810 chip with 256Kb of cache and up to 123Mb of memory, either 520Mb or 1Gb of disk, and 32 serial asynchronous input-output ports - the 520 starts at \$114,100 or £83,643; the model 820 also has two CPU sets with 256Kb of cache and up to 256Mb of memory, 520Mb to 2Gb of disk, and up to 64 serial asynchronous input-output ports - the 820 starts at \$148,500 or £103,193; and the model 830, which has three CPU sets with 256Kb of cache and up to 256Mb of memory, 520Mb to 2Gb of disk, and up to 64 serial asynchronous ports - this starts at \$227,700 or £135,101. Motorola is also currently working on fault-tolerant machines for telemarketing with GPT, Mitel Corp and Datapoint Corp.

NERVOUS OBJECT DATABASE GROUP CONSIDERS ORACLE'S REQUEST TO JOIN

Oracle Corp has asked to become a member of the fledgling Object Database Management Group, a spin-off of the Object Management Group that has just published a book containing its standard, says co-author Guy Ferran, vice-president of engineering for Versailles-based O2 Technology SA. "Their request has the effect of validating the norm, but it could also be dangerous" in terms of the competitive threat Oracle could pose to the smaller object database vendors that comprise the ODMG, Ferran noted. The group is still considering the request. Each of the members - Object Design Inc, Ontos Inc, O2 Technology SA, Versant Object Technology Inc, and Objectivity Inc - have agreed to incorporate the Object Management Group's standard into their products, Ferran said. He notes two major extensions that the Object Database Group has added to the Object Group standard in its book - "The Object Database Standard: Object Database Group - 93": One, it defines relationships between objects and, two, it defines the notion of a structured collection of objects. The Object Database Group's standard includes O2's SQL, called OQL, which was chosen as the standard request language, Ferran said. The object definition language from the Object Group has been retained, he added. "We think that the impact of Object Database Group-93 (the standard) should be the same that SQL had on the relational database world, because up until now, we have had no object-oriented standard; everybody proposed his own thing," Ferran said. "We could have gone to ANSI or one of the other big standards groups, but we wouldn't have been able to do this work in 18 months." The Object Database Management Group acquired a separate legal status from Object Management Group a few months ago and has hired Doug Barry, from Itasca Inc, to look for money and take the specification to other standards bodies. The object database vendors decided to spin off from the Object Management Group, Ferran says, because Object Group was "mostly computer manufacturers who wanted to make their computers communicate and who considered the [object-oriented] database problem more long term." Ferran said the US Advanced Research Projects Agency may be ready to finance their work on expanding the standard in collaboration with some university researchers, such as David Dewitt of University of Wisconsin and David Maier of Oregon. Dewitt will probably work on performance and optimisation for the OQL request language, Ferran added.

SIEMENS-NIXDORF WORKS ON SECURITY ANALYSER, MAINFRAME GUI

Siemens-Nixdorf Informationssysteme AG is developing an advanced security analyser, ASAX, for Unix machines in collaboration with a Belgian university, and also is looking at a graphical user interface for BS2000 mainframes. ASAX, which is now in beta testing, can analyse sequential files for security audits. It will be an OEM product, and run on Sun Microsystems Inc, ICL Plc, and Siemens-Nixdorf's own Unix machines as well as Microsoft Corp's MS-DOS-based clients. It should be available by February or March 1994. The user interface, meanwhile, is described as a Windows gateway that "bridges the gap between the user and the mainframe". No dates.

INFINITY SAYS MONTAGE CAN'T USE THAT NAME FOR ITS OBJECT DATABASE

Barely out of the gate and start-up Montage Software Inc, which just changed its name from Miro Systems, has been hit with a trademark infringement suit by Infinity International Financial Technology Inc, a Mountain View, California software company with a line of products named Montage. It is seeking a preliminary injunction and damages. Montage Software also calls its product, an object RDBMS, Montage. Infinity too has an RDBMS used by financial institutions called Montage Data Model. It says its products integrate object-oriented programming and relational database technology within a client/server architecture, a positioning that makes it close to Montage Software's. Montage, conversely, says it purchased a trademark that pre-dates Infinity's and contests its claims that the products can be confused, saying they are distinguishable on the basis of function, channels, market, sales and pricing. Montage's sell for \$1,000; Infinity's for up to \$2m. The suit became public knowledge the day before Montage Software's new president and CEO Dick Williams came on board to replace venture capitalist Gary Morgenthaler, the company's chairman, who had been filling the role temporarily. Williams had been executive VP of sales and general manager of the Digital Research Systems Group at Novell. From 1987 to 1991 he was president of Digital Research, but sold it to Novell and presided over its merger with Novell. He left last year and had been at IBM for 21 years.

NCD REPLACES OLD ENTRY-LEVEL X TERMS

Network Computing Devices Inc has replaced its ageing entry level NCD17c and NCD14c X terminals with three new models, which it claims provide twice the performance, but cost up to 40% less. The Entry Colour X Terminal series (ECX) comprises a 14" ECX14, costing \$1,800 or £1,435; a 15" ECX15 at \$2,000 or £1,600; and a 17" ECX17, priced at \$2,600 or £1,990. Each provides resolution of 1,024 by 768, includes 4Mb of DRAM, and has a 52,000 XStone rating. They are modular in design, can use a personal computer monitor, and are based on the Motorola Inc 68020 chip - it is likely that the Mountain View, California-based firm will move to the PowerPC in future releases, though. The ECX line also includes a PCMCIA slot for the first time; an integral local file system, supporting up to 20Mb of Flash memory for storing system software, fonts and configuration data; a Centronics-compatible parallel port for connecting printers and scanners; and new boot PROMs, supporting a graphical user interface, which is used to select monitor, network and boot option parameters. The redundant NCD17c and NCD14c, conversely, costed \$4,300 and \$2,500 respectively, performed at 35,000 XStones, and had a dedicated monitor, although they did offer the same resolution as the new ones. NCD says it is targeting the ECX family at those customers considering a move to low-end PCs, who do not want to incur the related administrative overheads, and to those seeking a higher-performance alternative to ASCII or 3270 terminals, without the additional cost.

NEW IBM - MICRO FOCUS ALLIANCE

The IBM Corp-Micro Focus Plc alliance gets ever closer, and now IBM UK's Networking Software Division has set up a new agreement with the Newbury, Berkshire-based company, giving it the right to integrate IBM CICS AIX and OS/2 technology into its application development environments for Cobol and PL/I. IBM will provide CICS production systems and Micro Focus will provide development tools for both IBM and alien systems that run the new Unix version of CICS - initially Hewlett-Packard machines. The planned systems will offer a high degree of portability. Micro Focus Cobol for AIX now supports IBM's DB2/6000 database. Last week, Micro Focus warned that the increase in revenue growth it had expected from new product might not show up in the figures this year, following "a temporary slowdown in growth of spending on Micro Focus products." Weak sales by computer manufacturers across the world are also hitting OEM sales.

USG LICENSES SNI'S XPRINT TECHNOLOGY FOR DISTRIBUTED MANAGER

Despite the apparent disarray at Novell Inc's Unix Systems Group over its Tivoli Systems Inc-based Distributed Manager framework - see front page - the company has apparently gone ahead and licensed Siemens-Nixdorf Informationssysteme AG's XPrint distributed print spooler as a reference technology for it. The SNI technology lost out in the original fight to supply a print solution for distributed services in the Open Software Foundation's now-defunct Distributed Management Environment - also based on the same Tivoli framework - to the DEC, HP and IBM sponsored Palladium printing mechanism developed by MIT. SNI has signed ICL Plc as an OEM for the stuff with other US firms reportedly set to follow. OSF's revised programme of distributed services, now subsumed under DCE, the Distributed Computing Environment, does not include Palladium, and clearly SNI is hoping to make up ground here. SNI says that at the DCE selection time, OSF was more interested in enabling technology like Palladium than a finished product such as XPrint. Although Palladium was also submitted to USG for inclusion in DM, USG preferred an off-the-shelf package. SNI will develop two versions - one specifically for DCE users. Meanwhile, a new release of Xprint - 2.0 - is due out in the autumn of 1994. This will enable Microsoft Corp Windows and MS-DOS-based personal computers as well Unix workstations to print from anywhere on a network - it will come with an interface independent of PCNFS or LANManager and will also support Windows NT as well as providing a POSIX 1003.7-compliant command interface. 1995 will see extra features added, including an intra-domain administration, enabling users to couple several networks; wide-area network printing capabilities; interoperability with the Berkeley spooler and printer protocol; and a configuration updating mechanism.

NETFRAME RUNS SVR4/ NETWARE ON ONE MULTIPROCESSOR SERVER

Superserver builder NetFrame Systems Inc has begun shipping its Concerto software, which enables the multiple independent multiple processors in a NetFrame superserver to run shrink-wrapped NetWare and Unix SVR4.2 concurrently. The Milpitas, California-based firm said Concerto will only work on NetFrame's boxes, however. Concerto is essentially a transparent messaging system that connects and co-ordinates NetFrame's application processors and other systems resources. So, if NetWare, for example, runs on the main system processor, application processors, which act as application servers within NetFrame, can run UnixWare or Oracle simultaneously. It is also possible to add an Intel Corp 80486 or Pentium-based application processor to the superserver. Concerto is available now for Unix SVR4 or NetWare costing \$2,000, but the firm added, "At some point, we will be able to run more than two operating systems - NetWare and Unix - such as NetWare, NT, Unix, whatever."

POWDERED DIAMOND AND COPPER DYMALLOY FOR HEAT DISSIPATION

As competition in the microprocessor world (literally) heats up, Sun Microsystems Inc and the US Lawrence Livermore National Laboratory have begun releasing samples of a new substrate that conducts up to five times faster than conventional packaging materials. "Dymalloy" is a combination of powdered diamond and copper and is development of work carried out at Lawrence Livermore during the Strategic Defense Initiative's "Brilliant Pebbles" project. In addition to its heat-dissipation abilities, Dymalloy has the same thermal expansion properties as silicon, which means that standard microprocessor chips can be mounted on a Dymalloy base, which-cools them. The researchers say they can use the diamond dust commercially available as a by-product of industrial mining or the synthetic stuff. This costs about 50 cents a carat, although they do not say how much would be required for the average multi-chip module seen as the main market for the substance. Howard Davidson, physicist and engineer at Sun Microsystems Laboratories believes Dymalloy could find its way into commercial workstations within a couple of years, and into personal computers thereafter. At present, the team is looking for a manufacturer for the material.

APPLE TO REVEAL UNIX/POWERPC STRATEGIES, MAY ROLL A/UX INTO AIX

Apple Computer Inc is set to clarify its Unix strategy this week as well as announce a few products that are unlikely to appear for another four months or so. It should tell us it has three new PowerPC-based Quadras that run the System 7 operating system native. At least one will be a multiuser version that also runs A/UX. The group may also reveal an intent to roll its well-respected A/UX Unix implementation into IBM Corp's AIX. That decision wouldn't be entirely market-driven - it appears the time has come for Apple to put something more into its relationship with IBM. As for its Macintosh Application Services binary-to-binary conversion software, sources say the firm is likely to declare it is working on a port to Sun Microsystems Inc, Hewlett-Packard Co and IBM Corp environments, although products won't appear until springtime. Finally, Apple's work with Symantec Corp on Bedrock, an object-oriented cross-system application framework that is intended to allow the development of applications, running under both Microsoft Corp Windows and System 7, seems to be struggling a bit. The two were supposed to be adding support for Unix on the PowerPC, but we reckon Apple is going to scrap that proposition because it is such a difficult technical task. Apple declined to comment.

APPLE "DESIGNER MACs FOR 1995"

Apple Computer Inc, seeking to burnish its somewhat dulled image as the industry's leading innovator - almost all its efforts of late have been going into shaving costs to compete in the cut-throat mass market dominated by no-margin Windows machines - is working on a new line of value-added or "Sharper Image" Macintoshes for the medium term - 1995, *MacWeek* reports. The paper says that Apple is looking to combine audiovisual technologies with new display and input devices to create machines that can be said to be truly different. A Mac code-named Pomona is expected to appear as a mid-performance desktop machine with improved ergonomics - "a computer that wouldn't look out of place on the set of Star Trek: The Next Generation," one source suggested to the paper. It will be aimed at executives, doctors, lawyers and those with home offices who want a machine to grace rather than jar with the furnishings. Pomona will come in three pieces: a 10.4" colour active-matrix LCD display with stereo speakers; a CPU in the new ultra-slim case; and a cordless infra-red keyboard and mouse, and Apple is working on making it serve as a television, a radio, a telephone with answering machine and a compact disk player as well as being a computer. It is also intended to have a built-in microphone and video camera for video teleconferencing, and may have a new touch-pad input device. The company also intends to use widely-used components so it can price the machine as the successor to the Classic II, although using an active matrix colour display may make that hard. In addition to Pomona, several styles and colours of designer Macintoshes are also being considered, the paper hears.

INCOGNITO AT WORK - OPUS DEBUTS NEW SPARCARD

Opus Systems Inc has started shipping a new 80MHz version of its SparCard Unix single PC/AT board computer (UX No 433), which plugs into IBM-compatible personal computers, enabling MS-DOS, Windows and OS/2 users to run Sun Microsystems Inc Sparc-based applications on them. The SparCard 2x is based on Weitek Corp's Sparc Power chip (UX No 441), and Santa Clara, California-based Opus claims that personal computers using it can run Sparc-based applications at the same speed as a low-end Sun SparcStation 10. SparCard 2x has up to 64Mb of memory, a 32.2 and 31.1 SPECint and SPECfp92 rating respectively, and supports Solaris 1.1 as well as SparcWare applications. But the product actually operates via Incognito (UX No 459) - this is middleware or a terminate and stay resident, which sits on the personal computer and links the SparCard to the personal computer engine. It is designed to hide the fact that a customer is actually using Unix at all - they simply click on a Windows icon to start off a Sparc-based application, while file management is undertaken by Windows File Manager. The SparCard 2x is targeted at scientific and technical markets and such high-end applications as computer-aided design and geographic information systems. It costs \$6,000 and is available now.

DEC SIGNS UP FOUR UK OEM'S FOR ALPHA CHIP

Digital Equipment Corp may have had a slow start in getting OEM customers interested in its Alpha AXP chip, but it has now won over four small UK firms to the cause. The first is Edinburgh, Scotland-based **Alpha Data Parallel Systems Ltd**, which was set up only two months ago - although staff have been developing parallel processor boards based on 166MHz Alpha 21066s for the past six to nine months. Founder and managing director, Nory Nakahee, used to work for 3L Ltd, which is also located in Edinburgh and specialises in parallel processing software. Realising that some applications, such as image processing, financial modelling, and weather forecasting, require more processing power than a single Alpha chip can give, he decided to develop linking technology for power processing. And he came up with the AD66-100 - a parallel processor board with 64Mb of main memory, 256Kb or 1Kb of external cache memory, 8Mb to 64Mb of DRAM, and four bi-directional transputer-compatible serial links. Each of these links runs at up to 20Mb per second and can be used concurrently. The AD66-100 can be employed in three ways. It can be connected to other AD66-100s as well as Alpha workstations via its serial links to form a network. An ISA version can be plugged into an IBM-compatible personal computer and hooked up to a network of AD66-100s. And a third option is to insert a third party link adaptor card, sporting an Inmos Ltd T425 processor, into any machine with a VME or SBus architecture. This includes Sun Microsystems Inc SparcStations, Apple Computer Inc Macintoshes or DEC VAXes. The transputer essentially interfaces with the Alpha 21066's PCI bus, and connects the two systems together. AD66-100s also come with DEC's Alpha C and 3L's Parallel C compilers, which run in the Alpha processor and are supported by the host operating system. This eradicates the need for a dedicated Alpha system to recompile alien software. A prototype version will be available from the end of January, with volume production scheduled for after March. Pricing has not yet been set.

Graphics accelerators

The second company to sign up is **Myriad Solutions Ltd**. The Cambridge-based firm is using a 166MHz 21064 to build Alphadrive, an application graphics accelerator subsystem for OEM usage. The product is essentially "a simple I/O framework for someone to build a cheaper package for their own custom enhancements" in such areas as mechanical engineering and image processing. It comprises a small steel box, holding a motherboard; a separate input-output card with transputer links; ISA and EISA interfaces; and IDE links so it can plug into the vacant hard disk drive bays of personal computers or Sun Microsystems Inc and Santa Cruz Operation Inc Unix workstations. Alphadrive should be available by March or April next year, but prices have not been finalised. Next on the list is **Mertec Computer Plc**, a personal computer manufacturer that also undertakes systems integration for the public sector - it specialises in education and health. This is Mertec's first move away from using an Intel Corp chip in its boxes, which run Microsoft Corp's MS-DOS and Windows as well as Santa Cruz Operation Inc Unix. The Swansea, South Wales-based company says it has "less than five" Novell Inc UnixWare customers too. Although it already resells Alpha-based workstations and servers, Mertec reckons its own new Alpha-based personal computers, which run OSF/1, NT, or OpenVMS on the servers, will complement the DEC-made machines at the low-end rather than compete against them. The brand-conscious can choose to buy a machine with the DEC label, while those on a tighter budget can go for its own less expensive model - this will also be custom-configured to match customer needs. The machines, which have not yet been given a name, should be available by the end of December, but pricing has again not been decided. And last, but not least comes DEC value added reseller **Digitrol Ltd**, also based in Swansea. Digitrol has a 19" rack-mounted 150MHz 21064-based machine that will run MS-DOS, Windows, NT and OpenVMS. Support for OSF/1 should follow. This is the firm's first foray into the Unix world, which it has been driven into by customer demand, it said. Digitrol's perception of how the new systems fit into its existing range is similar to Mertec's, but it is targeting them at systems integrators and systems builders in the industrial marketplace - including its own internal systems integration division. The boxes should be available by mid-December, costing about £4,500, depending on configuration.

TAO SYSTEMS LANDS GAMES FUNDING

Tao Systems Ltd, the Hampstead, London-based developer of the Taos, parallel operating system, says it has picked up undisclosed funding from a British Virgin Islands-based venture capital outfit, Einstein Holdings Ltd: the money is being used to form a new company, Galconda Games Ltd, which will initially develop virtual-reality type games for sale to amusement arcades, likely to use Transputer chips.

LACK OF T9000s - PARSYTEC MUST DEVELOP POWERPC VERSION OF GC SUPERCOMPUTER

German parallel systems manufacturer Parsytec GmbH, based in Aachen on the Belgian border, has been forced to develop a PowerPC-based version of its GC supercomputer, following a dearth of T9000 chips from supplier Inmos Ltd. Parsytec bemoaned Inmos's inability to ship volumes of the T9000 chip for over two years after it was previewed. The manufacturer will itself preview a processing node in January, using up to two PowerPC MC601 chips as the central unit, and four T805 processors as communication chips. It currently uses T805s as central processors in the GC units and has had a T9000-based machine design ready for over two years. The 601-based model, to be launched in March, will run a converted version of the firm's Parix operating system. It will offer more floating point performance than the T9000 specification, although the communications capacity will be less than on T9000 models. T9000 units will replace the communication chips when they arrive in volume, and PowerPC 604s will replace the 601 next summer, with 620s available at the end of 1995. Richard Horton, managing director of Parsytec UK, interpreted the move as a "spreading of risk", adding that the lack of T9000 chips was a problem. Inmos blames the lack of T9000s on its Newport, Gwent fabrication plant; the site yields low numbers of chips because it is restricted to using 4" wafers. The company is gearing up its 8" wafer plant at Crolles, France, to produce volume quantities of the chip, and is working to increase the speed - current ones run at 10MHz, but 20MHz to 30MHz ones are expected in the first quarter next year.

HP TOUTS OPEN IT GUIDELINES

In what Hewlett-Packard Co says is a move to offer customers a more cohesive hardware and software integration strategy, it last week introduced HP Open IT. The concept, which is similar to ICL Plc's Open-framework architecture, is designed to provide Unix users with a set of specific guidelines on application development, graphical user interfaces, front end information systems and systems management. The key common services underpinning it are HP's network management system, OpenView; SoftBench, the firm's CASE framework; and Motif. HP says Open IT is applicable to any Unix environment - and will publish API reference guides, documentation on OLTP specifications and preferred suppliers of integration technologies as well as information on industry standards like X/Open's XPG portability Guide, OSF's introduction to DCE and Motif and Codd & Date's SQL portability guide. Customers can buy Open IT documents from HP's Professional Services Organisation.

KENDALL SQUARE REVISES RESULTS

Kendall Square Research Corp's drastic revision of its 1992 results (UX No 461) has revealed that more than half of its reported revenues this year were not legitimate - revenues for the first nine months are about \$10.6m, less than half the \$24.7m previously reported for the first six months, and it made "substantial" losses rather than the six-month net profit of \$1.3m it reported. Kendall Square admitted it had sometimes recorded revenue for computers, which were shipped to universities that subsequently didn't pay and had no prospective funding. Founder Henry Burkhardt told the *Wall Street Journal*, "we're quite confident Kendall can survive," based on having \$22m in cash and continued favourable reports from its customers. But it will have to raise additional funds next year, and shareholder "litigation will make that a greater challenge."

BULL'S FACILITIES MANAGEMENT COMPANY

Compagnie des Machines Bull SA last week announced it has formed a holding company to handle its European facilities management business. Athesa SA is a facilities management joint venture for the French market with computer services group Cisi SA.

UNISOFT OWNERSHIP PASSES TO EMPLOYEES - SVR4.2 TEST SUITES ON WAY

Shares in privately-held company Unisoft have passed from the original founders to the current managers and staff of the company, headed by chairman Jeremy Thomas, and backed by an unidentified venture capital company. London-based Unisoft Ltd, with Unisoft Corp, its Emeryville, California-based wholly-owned subsidiary, now employs 25 people, down from the 80 or so when Thomas joined as CEO in 1987. Nippon Unisoft, based in Tokyo, is a distributor. Shares will be available for the employees. The UK's Root Computers, headed by David Saunderson, gradually took over the US Unisoft Corporation between 1985 and 1987 (UX No 56,157), but Saunderson and Unisoft founder Jeff Schriedman have not been active in the company since 1990. During that time, Unisoft's prime revenue source, from its Unix technical and porting expertise for Motorola Inc's 680X0 family of chips, slipped away as the market shifted to RISC. The company's subsequent RISC initiatives with the Motorola 88000 and the ACE Consortium also failed to come up trumps. Thomas, with Root's original technical director Andrew Twigger (now Unisoft CEO), are planning to build up the testing and verification side of the business: they developed and supply X/Open's VXS test suite for XPG conformance, and have produced a SVR4.2 conformance testing suite for Novell Inc's Unix System Group, currently in beta. Also nearing release is an applications verification suite for binary applications, destined to be part of a USG branding scheme. Complete applications verification is not possible, but the suite will allow ISVs to check whether they have used any code that will stop their applications running on other platforms. Extensions to include multiprocessing and SPEC 1170 are under development. On the porting side, Thomas says there is an emerging need for cheap and quick ports to standard, PC-based hardware (both Intel and RISC), an easier task since hardware dependencies were segregated off from the rest of the code in SVR4.2.

UNIPLEX TEAMS WITH TATA UNISYS IN INDIA

Hemel Hempstead, Hertfordshire-based MMI Plc subsidiary Uniplex Ltd is taking its eponymous shared logic office automation system for Unix to the Indian market with the help of the Tata Unisys Ltd joint venture in Bombay. Newsbytes reports that Tata Unisys will set up a software duplication, packaging and distribution company with Uniplex, which will initially serve the Indian market before spreading into other Asian countries. Tata Unisys already has similar joint ventures with Microsoft Corp, Santa Cruz Operation Inc and Autodesk Inc. This new one is scheduled to start operations at the Tata Unisys base in the former Portuguese enclave of Goa, close to Bombay.

LOTUS HAS NEW VERSIONS OF cc:MAIL LINK AND cc:MAIL FAX

Lotus Development Corp will release new versions of its cc:Mail Link electronic mail and cc:Mail Fax gateways next month, while finalising a deal with Digital Equipment Corp, under which the two will integrate their respective workgroup products. Version 2.0 of cc:Mail Link for the Message Handling Service is said to improve integration of e-mail package with Novell Inc's NetWare. The Mountain View, California-based firm says the product now conforms to Novell's NetWare Global Message Handling Service Specifications, including the Standard Message Format 71 application programming interface, which supports file names of up to 255 characters and enables cc:Mail users to attach an unlimited number of files of any size to an e-mail message. cc:Mail Link for MHS 2.0 is now in beta testing and although it supports NetWare Global MHS for NetWare 4.0, will not initially be integrated with NetWare 4.0's NetWare Directory Service. It will translate the relevant messages and addresses, however, and be available by the end of the year at less than \$1,000. Version 2.0 of the cc:Mail Fax gateway will, conversely, automate facsimile routing to a user's in-tray - each user is given their own fax number or personal identification number in addition to the main fax number. At the moment, it is up to the systems administrator to manually route the fax to each user. cc:Mail Fax will be available by the first half of next year, but prices have not yet been decided. Meanwhile, Lotus is expected to announce early next year that it will port its Notes package to DEC's Alpha AXP chip, while the two companies will also work together to integrate Notes into DEC's LinkWorks object-oriented groupware product (UX No 458). Although LinkWorks has been available for specialist projects for the past 18 months, it is due out in shrink-wrapped form in December, costing £300.

RED BRICK DATA WAREHOUSE ENHANCED WITH ODBC, NCR TO RESELL IT

Red Brick Systems Inc has expanded its data warehousing decision support system with the addition of a Microsoft Corp Open Database Connectivity driver, a parallel loading facility for multi-processors running Red Brick and a tool that automatically loads data in a way that provides users with the ability to automatically aggregate data according to their needs. The Los Gatos, California firm says it has also added new query performance enhancements to version 2.1 of the product. The parallel table management utility for firms with SMP systems builds index and checks referential integrity as the data is being loaded, speeding the process up. The auto aggregate load option enables data to be aggregated in various ways, including, sums, subtractions, increments, maximums and minimums (plus checks to prevent duplication) so users can get a range of information summaries. The ODBC driver enables personal computer-based ODBC-compliant tools to access Red Brick, including a slew of front-ends such as Microsoft Access, Visual Basic, Powersoft, Gupta and Cognos. The Red Brick system already includes Sybase Inc's Open Client protocol, which means it can connect to Prism, Clear Access, Metaphor, Pilot and Trinzic tools. Red Brick 2.1 enhancements include a parallel-index builder for creating multiple user-defined indexes, new ANSI 92 Date and Time data types, better query optimisation and cache management. Prices range from \$20,000 to \$320,000. Meanwhile, Red Brick says it has also added NCR Corp to the roster of customers for its decision support system, which include IBM, HP and Sequent. Red Brick, which recently won \$6.4m in its second round financing, expects to double the size of its sales team pretty soon and is opening a new sales office in Chicago. It claims its customer base is spreading beyond the traditional packaged goods market to transportation, telecommunications and banks. Red Brick vice president of marketing, AJ Brown, a recent arrival from Informix Software Inc, says he's working on getting Red Brick's cycle of product releases down to between six and nine months. Brown says Red Brick doesn't need to support IBM Corp's Distributed Relational Database Architecture database access specifications yet as the data it handles isn't live. Information Builder Inc's EDA/SQL is, Brown concedes, "important" but says the firm has no current development underway to support it, and it has no plans whatsoever to support Borland International Inc's IDAPI middleware or Apple Computer Inc's Data Access Language. +1 408 354 7214

KENAN OFFERS NEW DECISION SUPPORT BUNDLE

Meanwhile, Cambridge, Massachusetts-based Kenan Technologies Corp has introduced version 1.0 of Acumate Enterprise Solution, an enhanced release of its Multiway 4GL and database decision support system. Acumate ES includes Multiway and a range of executive information systems tools. It is out on Unix, Windows NT and OS/2 servers supporting Windows 3.1 clients. Prices start at \$3,000 per component, \$25,000 per packaged system. +1 617 225 2200

SCHEIFLER EXPLAINS X CONSORTIUM'S DEFECTION FROM MIT, AWAITS VERSION 6.0 OF X WINDOWS

X Consortium Inc director Bob Scheifler told *Newbytes* that the organisation was spun off from the Massachusetts Institute of Technology because it "has outgrown the university environment," and wants a stronger industry orientation. The use of an academic setting as the initial "home base" was an experiment on its part, he declared, predicated by the fact that X Windows was born at MIT. But he added that as an independent entity, the X Consortium will be able to pay industry-level salaries and thereby attract top-notch staff. It will also be able to focus more strongly on external communications. Meanwhile, the Consortium says it will hold its Eighth Annual X Technical Conference in Boston from January 24 to 26, where it will talk in depth about version 6 of X Windows, due for general release next year. Enhancements include "low-bandwidth X," support for Microsoft Corp Windows NT applications, multi-threaded servers and libraries, internationalisation, an X Image Extension for advanced image processing, and the Fresco object-oriented interface.

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Kam Chan, head of **Tatung Science & Technology Inc**, claims the company has an installed base of 6,000 to 8,000 Sparc clones, less than it would like. Half, he estimates, are in the US.

NEC Corp, vendor of **Mips Technologies Inc** RISC-based workstations, wants to get more mileage out of its software, and says it will convert applications developed for its 4800 series workstations for other manufacturers' and arch-rivals' machines. It will start by converting a screen formatter package called Yuzu II, developed for the NEC EWS 4800, over to **Sun Microsystems Inc** hardware. NEC plans to charge \$7,430 for the software on Sun - the same as on the 4800 - and hopes to sell 500 copies in the first year.

One of the brokerage houses on Wall Street has been surveying customers of the Unix version of **Computer Associates Inc's** Unicenter and found that folks frankly don't like it. It's the mainframe flavour that it imposes on more modern architectures they object to, coupled with the price and the fact it currently doesn't support heterogeneous servers - not to speak of CA's strong-arm business practices.

Novell Inc's Ray Noorda may not be retired yet but the company's executive vice president of corporate marketing and strategy, Darrell Miller, is going this week. Miller, who's credited with many of the company's high-profile alliances, is leaving after six years and will consult for venture capitalists.

Hewlett-Packard Co has made Wim Roelandts, vice president and general manager of its Computer Systems Organization, a senior vice president; and Gary Eichhorn, general manager of its Workstation Systems Group, a vice president.

The **NeXT** East Coast Developer Conference at which there might be some further alliances announced is set for January 24-26 in Washington, DC.

SunSoft Inc's 1994 Solaris Developer Conference is set for April 19-21 at the San Jose Convention Center in California.

Hear, Hear: **O'Reilly & Associates**, the publisher with the animal engraving on its book covers, has decided it owes the animals a thing or two. As a first step, it has established a funding programme for the Species Survival Commission's field study of two types of badly exploited crowned pigeons found in New Guinea and Indonesia, pictured on the cover of its book on Lex and Yacc. The eight-month study is expected to cost \$80,000 and O'Reilly is donating \$15,000 to kick it off. Hopefully, others will help out, especially with Christmas upon us. Contributions can be sent directly to the Commission with cheques made out to the IUCN-US and forward to Susan Tressler, Species Survival Commission, IUCN, c/o Chicago Zoological Society, Brookfield, IL 60513, USA

Digital Equipment Corp's LinkWorks object-oriented groupware product may now be safely shipping, but it has certainly had a few name changes in its time. Its developer, Austrian software house **FABA GmbH**, initially called it ObjectWorks, before DEC licensed it and, for copyright reasons changed the tag briefly to Percussion (UX No 451). But, by the time DEC launched its bunch of client-server software in October (UX No 458), the product had re-materialised again under the new name. Confused ??? - so were we.

The **Common Open Software Environment** firms are now shipping pre-production units of the Common Desktop Environment, which will go on general release in the first half of next year.

SunSoft Inc says it has now shipped 400,000 units of Solaris 2.x, adding that more than 50% of European users have now switched from Solaris 1.x to 2.x. It says Solaris 2.x will start shipping on the PowerPC in the second half of next year.

According to US reports, changes that **Oracle Corp** made to the SQL it used in the latest release of its Oracle 7 database, so it would conform to the ANSI SQL89 standard, have been causing some customers grief. Such adjustments include new ways for the database to send error code to an application, and although Oracle sent out early warnings, plus tools to help customers alter their applications, **AT&T's** Information Management Product Engineering division reportedly came unstuck. While programming an application with hundreds of programs and fields, it tried to exploit "loopholes" found in earlier Oracle releases. **AT&T's** application was set up to handle a certain response from the database when dealing with null value data types, but the ANSI standard needs a different type of error message. This caused processing to cease in certain circumstances, which means each program and field had to be checked, recompiled and re-tested.

Digital Equipment Corp is about to announce a 225MHz version of its Alpha AXP chip.

Fujitsu Ltd has won its first order for an AP 1000 massively parallel supercomputer from the Nagoya Institute of Technology. Terms of the deal were not disclosed, but the machine sports 16 processors and performs at 133MFlops. It will be used to conduct experiments in the university's intelligent data processing research programme.

The new Mips Orion chip, aka the R4600, looks so impressive **Silicon Graphics Inc** reportedly may stick it in Indy.

Corollary Inc and **The Santa Cruz Operation Inc** have extended their multiprocessor software agreement, whereby SCO markets, sells and supports Corollary's multiprocessor kernel under the name SCO MPX. SCO now has access to new Corollary multiprocessor architectures, and Corollary has gained distribution rights to SCO's Open System Software products. This gives Corollary customers direct access to SCO products.

We have heard suggestions that **Digital Equipment Corp** is thinking about signing up for **Insignia Systems Ltd's** SoftWindows Windows-under-Unix product.

Tom Mace was in Paris last week interviewing suitable candidates to head up the **PowerOpen Association's** new European office, due to open in January. The most likely contenders are people from **Compagnie des Machines Bull SA** and **Thomson-CSF SA**, who have been active in the standards arena. The office will probably be situated in Bull's offices in Paris.

Jeff Schriedman, **Unisoft Corp** founder (see page 7) transferred over to **Fujitsu's Open Systems Solutions Inc**, of Emeryville, California in 1991 as part of Unisoft's asset sales deal (UX No 349). That company, the technical eyes and ears of Fujitsu on the West Coast, is shortly expected to move to San Jose.

Sun Microsystems Inc chief Scott McNealy met with ICL Plc boss Peter Bonfield last week to try and get this Solaris-for-all-the-Fujitsu-family thing tied up.

IBM Corp now reckons it will pass the 4m mark for OS/2 2.0 and 2.1 operating system shipments by the end of this year; it says 75% of total sales are to new buyers, and it is gaining small business users. But **Microsoft Corp** scoffed to the *Wall Street Journal* at the claim of 4m copies of OS/2 sales, saying IBM's royalty payments to Microsoft suggest that no more than 1m copies are in use, IBM has probably not shipped more than 2.5m copies, most of those pre-loaded on its own personal computers.

Joe Menard, formerly marketing VP at the old **Unix System Labs**, is now VP and general manager of Tuxedo Systems division, responsible for the OLTP product's development and marketing.

The **X Consortium** - which has already lost its president-to-be (UX No 464) - is having its 8th annual technical conference at the Boston Marriott Copely Place between January 24 and 26. **X Windows** version 6 - X11R6 - will ship next April, the organisation says. +1 617 253 1700.

The Microprocessor Report says that **HaL Computer Systems** is out of cash and needs resources from its new parent Fujitsu Ltd to finish its product line. The newsletter figures the stuff won't be out until late next year and, like us, believes it probably won't meet its originally aggressive design goals (UX No 464). It says Fujitsu bought what it didn't own for \$3 a share. Dismissed CEO Andy Heller sold 3m shares.

MainSoft Corporation had a contract on its desk last week that will give it license to use Microsoft's Windows 3.1 source code in its Windows-to-Unix technology which lets C/C++ Windows apps to be source ported to Sun, HP, IBM and Silicon Graphics platforms using the Win API and keeping the Windows look and feel. MainSoft still has a few issues

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X/OPEN CALLS FOR "OPEN" MICROSOFT WINDOWS SPECS

X/Open Co chief technical officer Mike Lambert last week issued a public invitation to Microsoft Corp to submit the specifications of its Windows technology to the X/Open process. Delivered to the 200 plus attendees of the Xtra '93 conference in Rome, Lambert's call followed a strong critique of X/Open's first ten years of operations by one of the group's founder members, Dr Robb Wilmot of Oasis (details, page 2). The sub-text of the entire event was that, despite X/Open's recent success in focusing the COSE initiative and taking charge of the Spec 1170 "unified Unix" effort, there was now a vital need for X/Open to transcend its Unix-centric view of the world and start taking more notice of the real world. "How can X/Open possibly claim to represent an industry in a neutral, non-partisan way when Microsoft and the non-Unix bit of Novell weren't part of the process", said Wilmot. "Spending the next decade sorting out Unix is exactly what some folk would like X/Open to do, but what is it we want it to do? Is this delivering real value?". Lambert himself warned that the open systems movement could not survive another protracted war such as those over graphical user interfaces. Lambert later told *Unigram.X* that having the Windows applications programming interface and possibly the OLE (Object Linking and Embedding) specifications within the X/Open standards framework would provide a basis for interoperability between Windows and the rest of the industry. It could provide Microsoft with a less threatening route towards openness than the Sun Microsystems Inc led Public Windows Initiative, and would not slow down future Windows development any more than the existing pressure from Microsoft's 30m strong user base, he claimed. Microsoft is a member of X/Open's ISV Council, and has previously submitted specs for Lan Manager, SQL command line interface and X.400 API. This is the first time X/Open has formally asked Microsoft for the Windows API. The irony of the situation is that in 1987, Bill Gates attended an X/Open board meeting and offered the specs for Windows 2, but was refused. "Well now we've thought it over", said Lambert "and the answer is yes!"

DISTRIBUTED MANAGER BOOT NOW FITS OTHER FOOT

The DM boot (Distributed Manager not Doc Marten), looks to have swung to the other foot, with Tivoli Systems Inc now reported to be in the driving seat. Unix System Group will formally jettison DM within 30 days, technology spurned by new parent Novell Inc in favour of its own Novell Distributed Management Services. The plan for Tivoli rival OpenVision Inc to pick up the pieces of the deal once USG decided not to honour DM pacts last October appears adrift (UX Nos 460, 465). Tivoli is apparently expected to step into the frame, perhaps as soon as this week. Details of the new agreement have yet to be concluded, but Tivoli may take over a similar form of contract USG held with its DM software partners - minus the outstanding financial obligations that have so provoked those application providers. The three, Unisys Corp, Pyramid Technology Corp and Siemens-Nixdorf Informationssysteme AG, once thought to be antagonistic towards the Tivoli technology, are seemingly now coming round to it. DM is in any case a derivative of the Open Software Foundation's Distributed Management Environment 1.5, which, based on a previous version of the Tivoli framework, was bought outright by USG predecessor Unix System Labs specifically for Unix SVR4 platforms and reworked at considerable cost.

...AS TIVOLI PUTS TMF 2.0 CODE, API IN PUBLIC DOMAIN

Tivoli Systems Inc has followed up its presentation to X/Open Co's systems management working group last week (UX No 465), by putting the application programming interface (API) to version 2.0 of its distributed management environment into the public domain and announcing that binary and source code implementations of the OMG Corba 1.1-compliant framework will be available by the end of January or beginning of February. Tivoli says a slew of end-user TMF 2.0 implementations should be up and running by the end of the second quarter of next year. TMF 2.0, compatible with applications up under the existing 1.6 release, will be extended or modified according to any changes required by X/Open - if indeed the specification makes it that far down the standards path. Answering critics of the nine-month-old TMF 2.0 API, Tivoli says 2.0 isn't just 1.6 reworked to include Corba 1.1, but has additional security, customisation and automation facilities, reliable transaction retrievals, scalability and internationalisation. Tivoli hopes to draw OEMs out of the wood by offering to license framework code for a fixed annual fee without per-copy royalties. The Austin, Texas firm claims it is already working to integrate TMF 2.0 into a number of vendors object-oriented operating systems - such as SunSoft, IBM, DEC and HP - but isn't naming names. Current partners include Sun, IBM and HP. TMF 2.0 will be up first on Solaris 2.3, SunOS 4.1.3, HP-UX 9.0, AIX 3.2.4, DG/UX 5.4, Motorola System V/88 and Windows NT. In addition, Tivoli says it will be migrating customers and applications from the Novell Unix System Group's now-abandoned SVR4 Distributed Manager framework to TMF 2.0 - see above. Tivoli says it is already discussing TMF interoperability with Novell's Distributed Management System/AppWare, the system the Unix owner has picked over DM.

HP'S NEW YEAR BASH TO FEATURE CAN-DO DESKTOP...

Hewlett-Packard Co will make good its promise to deliver a system based upon the PA RISC 7100LC processor by January (UX No 449), with a splash of workstation, server and software announcements planned for the week of the 17th. An entry-level enterprise desktop box dubbed Gecko will be the first member of a family of systems that will feature the first implementation of HP's bi-endian, low-cost "Hummingbird" CPU. According to our sister paper, *Client Server News*, Gecko is the same box that the company was showing under non-disclosure at Comdex running Microsoft Corp Windows NT. Gecko is expected to surface as a sub-\$4,000 Unix machine, with no mention of NT in its first incarnation. HP is thought to have a \$3,500 price tag in its sights, but might not make that by the launch. \$2,500 is seen as an achievable price in the longer term. Gecko, which has been on the runway since August, if not before, will feature in a cut-down tower-type housing and come with 16Mb RAM, 256Mb disk, two expansion slots, full motion video and telephony support. Software will include HP-UX, SunSoft Inc's Wabi, Xcelerated Systems Liken Mac-on-Unix and probably NeXTStep too. The 7100LC embedded in Gecko comes with arithmetic logic unit, cache control and video functionality built-in - it's reckoned to be around half as powerful as DEC's Alpha. The 7100LC is slated in 60MHz and 80MHz versions to begin with. HP will debut servers and X terminals too, whether HP-UX version 10 becomes a part of that announcement is unclear at press time - it's currently in final testing.

... AS IBM/HP TALKS CONTINUE

Separately, the plan to seal a long-term strategic agreement with IBM Corp on a range of technologies and directions - which seemed all but scuttled when the Taligent Inc deal never went through - is still under negotiation, says Bernard Guidon, European Computer Systems Marketing Manager (UX No 430). The firms won't make their end-of-year target for completion, however.

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X/OPEN MUST "RE-VISION" OVER NEXT DECADE, SAYS FOUNDER ROBB WILMOT

Way back in 1983, at the Hanover Fair, industry guru Robb Wilmot, then chief executive of ICL, got together with Klaus Luft from Nixdorf and Elserino Piol from Olivetti and conceived the idea that led to X/Open. Originally named BISON after its original members Bull, ICL, Siemens, Olivetti and Nixdorf, the group decided to collaborate around Unix to provide a common applications software environment, in a move that was originally seen as a European defensive move against the domination of US computer companies, particularly IBM (UX No 1, 16). (The Bison, as X/Open chief technical officer Mike Lambert points out, was an animal that the US were intent on making extinct). In fact, the group soon grew to embrace vendors worldwide, and now has 14 sponsor members - soon to be 15 with the addition of Novell Inc. Last week, Wilmot - now Chairman of Oasis Group Plc and a director of Sequent Computer Systems - was invited back to review the group's progress ten years on - and he found it wanting. "The Unix community has almost, but not quite, succeeded in snatching victory from the jaws of defeat", said Wilmot, referring to the recent Spec 1170 Unix unification effort. But, he said "there are 200 standards bodies active in and around the distributed computing paradigm. Computer vendors still can't quite psychologically cope with daring to be the same, which is what the user wants, despite industry-wide commitments to do so every six months. Whether the latest initiative is any different, or will crash and burn like all the others remains to be seen". Momentum within X/Open is still too slow, he says, with too much of its time spent "standardising history rather than intercepting the future". Even in this area there has only been "modest branding activity outside the shareholder base, and slow take up of XPGIV." Meanwhile, he says "Microsoft will use its desktop dominance to influence the rest of the industry. We are heading into a transition where the Microsoft and Novell architecturally influenced enterprise is going to appear at the other end. It doesn't matter if it's Windows or Novell-Ware as long as both interoperate at all levels and provide effective competition to each other within a distributed computing environment and we have both". Wilmot's solution is for X/Open to change, "shake off its Unix heritage, and re-vision to look forward to the next ten years". To do this, he says, it will need a new form of governance, the suggestion being that the current board of shareholder representatives become a nominating committee to elect a new board of directors split between vendors and users with three year terms. This would help avoid the current conflicts of interest between vendors and users that Wilmot sees as slowing down progress. X/Open should build up its skills transition consultancy business (already bringing in annual revenues of \$5 million) with a view to becoming self-sufficient within two years. Wilmot also favours the mobilisation of a "user group of user groups" by creating and bringing together the open systems chapters of the current 150 strong crop of vendor specific groups, to feed the Xtra process. And finally, says Wilmot, users must flex their muscles by "quietly but insistently recommending Microsoft to get on with it, because after all, it's their world we want to grow, they've got nothing to lose. There's a British saying that addresses this point quite nicely. We want them in the tent with us pissing out, rather than outside pissing in", he concluded.

Xtra survey

X/Open has launched its Xtra '93 Global Directions survey of large scale computer users, which it carried out in conjunction with market research firm Dataquest. It finds that 35% of external IT budgets are now spent on open systems, a figure that is expected to rise to 58% in 1996. For X/Open itself, one of the most alarming statistics was that only 28% of users were willing to pay more for X/Open branded products. Given the average \$100m spent by large vendors that have made the giant step from XPG3 to XPG4 conformance, that left some vendors unhappy about the possibilities of a return on their investment. Another result that set alarm bells ringing was that only 11% of US respondents specified international standards on their procurement documents, compared with 56% in Europe, 40% in Asia and 68% in the rest of the world - suggesting a severe overestimation of the importance of standards in the US domestic market. Users at the show rejected the survey's prediction that Windows NT would be at the top of the operating systems shopping list by 1996. "There's no reason for Hyatt to buy NT" said Gordon Kerr of Hyatt Hotels. "We wouldn't put mission critical applications on NT" said Manfred Kruger of Nestle. Analyst David Smith of IDC pointed out that the argument was about 16-bit Windows versus 32-bit Windows rather than NT. "The impact of Chicago next year has not been factored into the results - people have indicated interest in NT when they mean Chicago", he said.

SYBASE PAYS \$21m IN SHARES FOR OASIS

Relational database specialist Sybase Inc, Emeryville, California has turned its attention to the integration and management consultancy business with a bid to buy Maidenhead-based Oasis Group Plc. Oasis, a surprisingly low-profile business re-engineering company founded in 1986 by Robb Wilmot, company chairman. It now has 100+ employees and an impressive client list. Revenues for the year ending this June were \$10.5m. Sybase will issue \$21m of new common stock in exchange for all outstanding Oasis ordinary shares. It needs the assent of 95% of Oasis shareholders for the deal to go through and it claims to have majority backing already, as well as the support of Oasis's directors. The deal could be sealed by January. Oasis will operate as a separate international division of Sybase with Wilf Eaton, Oasis chief executive, reporting directly to Dave Peterschmidt, Sybase vice-president and general manager of worldwide field operations. Sybase currently gets 10% of its turnover from consultancy - the company says the acquisition will allow it to take a more active role in its customer's "strategic business planning" and is particularly interested in improving its skills in the financial world to enhance its Wall Street business. Oasis already has US offices in San Diego, California and Dallas, Texas. Robb Wilmot claimed the company's largest projects, typically \$10m-\$30m in size, "invariably involve open client/server migration".

HP ADDS OPENVIEW STORAGE OPTIONS...

Hewlett-Packard Co will today detail a range of new storage and backup options available under its OpenView network management system. HP OpenView OmniStorage is an hierarchical storage management module which HP says can manage a range of networked optical and magnetic disks, operating unattended. OmniStorage provides problem and error notification, supports NFS clients and is out on HP's Model 700 Unix workstations now, from \$12,000, with Model 800 server versions due mid next year. The server versions of OpenView OmniBack and OmniBack/Turbo have been extended to include support for IBM 3480-compatible half-inch tape drives and 8mm Exabyte devices, and SAP AG's R/3 accounting software has been integrated with both to provide on-line backup and support for R/3 databases. OmniBack allows users to manage multiple backup domains from a single OpenView station. Prices go from \$3,200 for OmniBack, \$52,000 for OmniBack/Turbo. Meanwhile, HP has put OpenView Software Distributor up on SunOS 4.1.3 platforms, which it says can now distribute and manage software in mixed HP and Sun environments from one station. The Software Distributor runs on HP-UX and SunOS 4.1.3 systems, and costs \$2,250.

...ENDORSES UNIXWARE CLIENTS

Hewlett-Packard Co last week endorsed Novell Inc's UnixWare as the preferred choice of operating system for Unix-based Intel clients hooked into its PA RISC servers, saying "Novell's Unix strategy is really coming together." HP says it is impressed with UnixWare's designed-in support for Intel architectures - "SunSoft's Solaris is good, but is designed for Sparc," it offers in comparison. However, apart from a commitment to jointly develop HP-UX/UnixWare integration technologies, there was little substance to the agreement. Its purpose in part seems to have been to underscore to the industry the continued relationship HP has with Novell's Unix group. HP's European Computer Systems Marketing Manager, Bernard Guidon, moved quickly to dampen speculation that the agreement will be used as a trojan horse to move HP-UX over to SVR4. For the near-term, Guidon says HP can continue to blend pieces of Unix Systems Group, OSF and other operating system technologies without problem. HP-UX 10 for instance, now in final testing, includes IBM Corp's Logical Volume Manager.

NOVELL HAS TWO INTEL UNIX BINARIES

US reports say Novell Inc is collaborating with two Unix companies, Sequent Computer Corp and Santa Cruz Operation Inc, that are both working on two separate binary standards for Unix running on Intel. Next month, Novell and SCO intend to announce they will update the Intel Binary Compatibility Specification version 2.0 to incorporate work undertaken by the COSE group. This has reportedly been endorsed by Intel, and Sun Microsystems will be invited to join the party. The Sequent/Intel binary standard is also said to have some big names behind it, however. Apart from Novell, these include Sun, Compaq, Unisys, CA, NCR, Informix and Oracle. Intel is said to be endorsing this one too, although SCO, with about 60% of the Unix Intel market, is significant by its absence.

INTERLEAF JUMPS ON BANDWAGON - UNVEILS WINDOWS-LIKE WIDGETS FOR CDE

Waltham, Massachusetts-based Interleaf Inc has got the Microsoft Corp Windows-style widgets developed for its Motif-based document management and publishing solutions, adopted by COSE, which is shipping them with Common Desktop Environment CDs. The widgets - spin buttons, drop-down list boxes and combo boxes - were picked up by Novell Inc, charged by COSE under the joint development agreement to work on the Motif 1.2 toolkit used in CDE. Interleaf, which donated source code to Novell, posted specifications for APIs to those widgets up on the net towards the end of last week (for C developers and ISVs writing to Interleaf's own Lisp extensions) an act it claimed was entirely altruistic. Ex-Microsoft engineers at Interleaf put the widgets together for version 6.0 of the firm's document management system which shipped in October. The original Interleaf system came with a proprietary interface, but when the firm decided to extend its use beyond its traditional publishing industry customer base, into MIS and corporate systems space, but soon realised, it says, the need for a GUI familiar to users at this level. So it added Windows-style facilities and feel to the Motif front-end it was offering by this time. Interleaf uses the Integrated Computer Solutions Inc Motif toolkit to do its work, the widgets it says will work with most GUI builders. A library matches calls from the Windows-style widgets to X. The beef Interleaf says it hears from customers is their demand for a single user interface API, embracing Unix and Windows. Paul English, vice president of engineering for Interleaf's publishing group, argues the Unix industry's squabbling over the user interface in all of its forms is nonsense and that suppliers know users really want one API for Motif and Windows. "It is possible for Windows and Motif to be the same. The easiest way is to make Motif look like Windows. Bill Gates rules the world. That's unfortunate, but that's the way it is. And users want one GUI." Interleaf's contribution to CDE fills a requirement left by the Motif 1.2 release CDE uses, which has no Windows-type functionality, and Open Software Foundation's forthcoming Motif 2.0, which already has Windows buttons and boxes (UX No 464). However, only if unencumbered, would X/Open Co likely pick up the Interleaf specification under its user interface environment spec, which will be based - so far to an undetermined degree - around CDE. The problem, observers say, is the potential conflict - god forbid - between APIs to different implementations of Motif created by COSE, OSF and X/Open. Interleaf won't be leaving its GUI effort off there. With the release of Interleaf 6.1 in January it'll be announcing versions of its SGML technology for Microsoft Corp Word 6.0, which will allow direct manipulation and re-sizing of document structures and result in a forms widget for Windows, the API to which it will offer-up for Windows, Mac and Unix developers. Interleaf's contribution to CDE is, proponents argue, another indication of the growing bandwagon for Windows look and feel under Unix. UK firm IXI Ltd stoked that fire in October with its Win-tif technology. Win-tif provides an automatic Windows-style front-end for Unix applications and is supplied as a bundled upgrade to its Motif toolkit to the likes of IBM, SCO, DEC and Sun. It is likely that COSE firms will be driven by demands from customers - and unfolding events at X/open Co (see front page) - to gradually include more Windows-style functionality in CDE over time.

TALIGENT AND KALEIDA SURVIVE FUNDING QUESTIONS AT IBM AND APPLE

According to US reports, IBM Corp and Apple Computer Inc have decided to continue funding Kaleida Labs Inc and Taligent Inc despite their recent management changes and financial re-evaluations. But sources familiar with IBM reportedly indicated that senior vice president for strategy and development, James Cannavino, had to intervene to ensure such financing continued, after CEO Louis Gerstner apparently questioned whether either of the firms were really strategic investments. And it seems a huge review of hundreds of Big Blue's joint ventures could result in it trimming its funding to as few as 24 external companies and projects. The re-evaluation process at Apple was said to be less formal, but was also driven by a desire to restructure the company. Nonetheless, neither Taligent or Kaleida is expected to ship products in any large quantities until 1995 - although Taligent does plan to supply IBM and Apple with portions of its operating system next year, and Kaleida has already delivered an alpha version of its ScriptX operating system to its preferred partners. It also plans to use Malibu, a multilayer graphics and memory controller chip, which it designed and Motorola Inc is manufacturing, in Scientific-Atlanta Inc's set-top terminal - this will deliver interactive and multimedia services to the home via broadband television networks. Malibu is optimised to work with PowerPC-based hardware, and can be used to display high-resolution text and enhanced two-dimensional and three-dimensional animation and graphics. But the three firms will also work together to develop interface software for networks and media servers running ScriptX.

OMG OUTLINES PROGRESS TO DATE

At its meeting in Austin, Texas, last Tuesday, the Object Management Group established a Common Facilities Taskforce to develop a specification for distributed compound documents (UX No 457). The specification will use Microsoft Corp's Object Linking and Embedding software, Apple's OpenDoc and Lotus Development Corp's LEL Link Embedded and Launch-to-edit, and be published in eight or nine months. OMG also received 11 letters of intent from vendors submitting technology for consideration as specifications for the interoperability and initialisation components of the Common Object Request Broker Architecture version 2.0. The list includes IBM Corp, ICL Plc, SunSoft Inc, Hewlett-Packard Co, Hyperdesk Corp, the Open Software Foundation, Expersoft Corp, Iona Technology Ltd and Digital Equipment Corp - DEC's submission will be supported by Microsoft Corp. Selections should be made by July next year, and the specification is expected by late summer. Meanwhile, OMG has accepted Hyperdesk's C++ interface as the standard link between its own Interface Definition Language and C++. It will publish a specification for object persistence in eight weeks based on joint development work from IBM and Sun Microsystems Inc - this will become part of the Common Object Services Standard. And it has established a user group, which will prepare its own requirements for specifications. It has also set up a taskforce to add object interfaces to transaction processing and security products - this specification should be ready by the middle of next year. Finally, it is working with the US Defence Department and various vendors to make the PCTE common framework for users building computer-aided software engineering environments, CORBA-compliant.

ACER UNIFIES ALTOS COMPUTER LINES WITH ITS OWN

Acer America Corp will today unveil a new series of Intel Corp-based servers that will at one stroke reconcile its Acer and Altos Computer Systems lines. The new series run from the entry-level AcerAltos 700, through the mid-range AcerAltos, to the high-end Pentium-based AcerAltos 17000 multiprocessors. The integrated line will reduce the plethora of different models and configurations currently offered by Acer and its Altos division to just 23: previously there have been some 35 models just at the low-end of the Altos series. The initiative is one of the first to be driven by the Taiwanese giant's US operation, which will increasingly define its own strategic direction and policy. The hardware itself is pretty much unchanged from what the company already offers in various guises - it'll supply Altos/SCO Unix, Windows NT/AS, Windows NT, SCO Unix, OS/2, Vines and NetWare according to customer requirements. Some models in the re-constituted line have in fact already been selling in Europe, the company says. The EISA bus Acer/Altos 17000 symmetric multiprocessor comes with from one to four Pentiums and supports from 32 users up in eight configurations. It replaces the Altos 10000 and AcerFrame 3000MP. The EISA bus and VESA bus AcerAltos 7000 supports up to 64 users, uses a 66MHz 486DX2 or 60MHz Pentium and comes in nine configurations. It has Acer's ChipUp processor upgrade system into which Intel's next OverDrive Pentium will fit and replaces the AcerFrame 500, 1000 and Altos 4500. The ISA bus AcerAltos 700 starts at \$1,300 and comes in 33MHz 486DX and 66MHz 486DX2 models in six configurations. Prices on top-end 17000 models go from \$50,000. Also employing Acer's ChipUp system, it is good for up to 16 users and replaces the Altos 900, 1700 and 3500. All are available now. PCI bus PCs will appear in the first quarter of 1994, when first Pentium OverDrive samples are also expected. Acer projects sales of \$1.5bn this year with US sales accounting for 30%. It is opening a new US channel for its PCs and other low-end devices.

STRATUS TO PAY \$24m FOR ISIS

Stratus Computer Inc's latest software acquisition target is Isis Distributed Systems Inc. It has definitive agreement to buy the privately-held Ithaca, New York developer of distributed computing applications involving networked clients and servers for most Unix systems. It will pay about \$24m in cash and shares and run the firm as a wholly-owned subsidiary under the Isis name.

SUN AND IBM SIGN AGREEMENTS WITH SAP TO SUPPORT R/2 AND R/3

Sun Microsystems Inc and IBM Corp have signed technical and marketing agreements to support SAP AG's R/2 and R/3 business application software in an effort to enhance expertise and support for users. Competence centres are being established with both companies at SAP's headquarters in Walldorf, Germany for co-operation on future product development. The agreement with Sun is intended to optimise R/3 for the Sparc processor and provide pre-sales support in client-server computing. The IBM agreement means IBM will sell R/2 and R/3 for its hardware environments and the two will fund joint marketing activity. SAP has also set up the Early Watch support programme, a monitoring system to link R/3 users electronically with SAP experts 24 hours a day from various locations across the world, which will alert customers to potential trouble spots such as a systems overload, and offer improvement suggestions, set up to deal with the teething problems that may be faced when introducing client-server technology. Early Watch has recently been implemented at Brooke Bond Foods in the UK. These new partnership announcements are intended to fit with SAP's target of integrating the smooth running of all business activities, from accounting and sales right through to plant maintenance. Its strategy of working closely with its partners to add value through expertise in business analysis and understanding of large-scale implementation has been formalised in the last two months with the establishment of a division to manage these relations with other companies under the UK managing director Petra Frenzel. The company's strategy of investing in its future stability leads it to spend 25% of its revenue on research and development. It has spent £150m so far developing R/3 and anticipates R/2 will be entirely compatible with R/3 in around 15 months for direct migration. A Windows NT version of R/3 is expected by late first quarter next year. SAP's main customer base is in oil and gas, chemicals and pharmaceutical, but the UK branch of SAP, based in Feltham, Middlesex, is currently targeting the UK finance and banking sector, since the company as a whole has six of the top 30 continental banks as customers - but none of the top UK banks.

ALEX TECHNOLOGIES DEBUTS TIMEBASE DIARY MANAGER, SIGNS DEAL WITH INGRES

Alex Technologies Ltd has launched the first module of its new Alex GroupWare series, TimeBase, a multiuser diary manager with event notification and e-mail links. TimeBase is written in the Alex language, which is similar to C, and runs under X Windows and Microsoft Corp Windows at the client end, and Windows NT as well as different flavours of Unix, including UnixWare, at the server end. The product is available from February via value-added resellers - Alex Technologies says it is trying to broaden its base by moving more into this channel, although in the past it has concentrated on its OEM business - and costs \$50 or £30 per user license, and £250 for five users. A workflow management product should also appear towards the end of next summer, costing the same. Meanwhile, the London-based firm has also signed a deal with Ingres to enable its Alex graphical user interface builder to provide Ask Ingres character-based applications with a Windows or Motif look-and-feel. The product is scheduled for release in the second quarter of 1994.

PRISM ADDS UPDATE ENHANCEMENT FOR DATA WAREHOUSING

Prism Solutions Inc, Sunnyvale, California, has added support for Tandem NonStop SQL and Teradata target databases to its Warehouse Manager, which extracts data from DB2, IDMS and DEC RMS databases for use in data warehouses on mainframe, client/server or parallel processing environments. Prism now also offers the ability to automatically capture changes in data and update the data warehouse via an operational data store that contains between 30 and 60 days of current data. Warehouse Manager 3.5 is priced at from \$75,000, source modules start at \$20,000 apiece, target modules are \$20,000 each whilst Changed Data Capture software costs \$25,000 per source environment. +1 408 481 0260

NEURON DATA FRANCE PLANS GROWTH VIA RESELLERS AND LARGE ACCOUNTS

Approximately one month after his arrival as managing director of Neuron Data France, Jean-Marc Leclere is planning for a slight shift in the company's direction. "Our objective is to put the French subsidiary into more of a growth mode. It has been profitable since its inception, but has existed more as a technical support organisation than a sales organisation," he said. "Thus, we want to put it onto a trajectory of perhaps flatter profitability but higher overall growth by getting into the markets where we should be." He said the goal will be pursued along two main axes: more active pursuit of large accounts and enlarging its value-added reseller programme, particularly in the domain of health and information system development tools. On the second axis, the company is getting ready to sign a Europe-wide development and sales agreement with "a big American manufacturer" for a clinical information system, Leclere said. The company will use Neuron's C/S Elements product to develop the system, which it will then sell throughout the region, he said. Leclere says he would like to add 10 new value-added resellers by the end of next year. For the fiscal year in progress, which ends on March 31 1994, Neuron Data's French subsidiary expects to report sales of about \$2m an increase of nearly 30% over the previous year. Leclere is aiming for \$3.5m the following year. The company also plans to hire three new sales and pre-sales engineers by next March.

SOFTWARE RESEARCH ADDS TESTING TOOLS

San Francisco, California-based Software Research Inc has beefed up its X Windows-based capture and playback automated software testing tool, Capbak/X, which now includes optical character recognition technology licensed from Xerox Imaging Systems for use in playback mode, allowing the user to find text that has moved to a different place from when the test was created and see pixel images in ASCII. The firm has also modified an X server to provide a virtual display capability so a test can run in the background while the screen is being used for other tasks. Capbak/X is available bundled with the company's SR's STW/Regression testing package and is up on most Unix platforms priced at from \$6,000. Meanwhile, the company has added an STW/Advisor module to its Software TestWorks suite, comprising an X Windows-based metric analysis system, a C static analyser and a test data generator. STW/Advisor costs from \$5,000. The Software TestWorks line is now up on Silicon Graphics Inc workstations. +1 415 957 1441.

MAI GIVES IBM OEM DEAL FOR RS/6000 UNIX LINE

Fresh out of Chapter 11 bankruptcy protection, MAI Systems Corp has a significant army of US dealers that have been selling its products and applications for years - but no contemporary new machines to push through its channels. The Irvine, California has now decided to badge IBM Corp's RS/6000 line as the RPx 7000; it is also taking AIX and will market the systems with its own OpenBasic applications environment through its North American and Latin American Business Systems Divisions, and via its Sextant Corp and Computerised Lodging Systems Inc subsidiaries.

LOTUS NOTES TO SUPPORT OS/2, FREES ITSELF FROM ONEROUS IBM PAYMENTS

It turns out that when IBM Corp gave up on its ambitious OfficeView development and decided to offer Lotus Development Corp's Notes instead, it tied Lotus down to an onerous agreement under which Lotus had to pay IBM between 25% and 33% of the value of all Notes sales, regardless of who made them, the Wall Street Journal reveals. Overall Notes sales are expected to double to \$100m this year, and to \$200m next, making the payments to IBM significant for Lotus. Now, says the Journal, it has persuaded IBM to end the agreement in return for Lotus making an additional commitment to the development of software for IBM's OS/2 operating system. Last month Lotus publicly renewed its commitment to OS/2 and said it would produce a series of new OS/2 products, but didn't mention the Notes side deal.

SUNCONNECT TAKES NETLABS' OBJECT TECHNOLOGY FOR ENCOMPASS NETWORK MANAGEMENT SYSTEM

by William Fellows

As expected, SunConnect has thrown in its lot with NetLabs Inc, going to the Los Altos, California-based firm for an OEM licence to its object-based Dimons 3G technology which will form the basis of a new multi-user object-oriented network management environment, currently known as Encompass. In addition, the Sun Microsystems Inc unit, based in Grenoble, France, will be offering NetLab's repository and database for storing and sharing network information as products in Encompass and on the forthcoming version of its existing network management technology, SunNet Manager 2.2.

SunConnect and NetLabs will develop separate products lines out of Dimons, but will maintain a common set of application programming interfaces, protocols and information models. SunConnect will extend Netlabs' high-level API into what it calls the Common Portable Management Interface that'll provide compatibility for any Dimons-based application, including those that will feature on other Dimons OEM implementations, such as that over at NCR Corp. Dimons - known as Overlord from its announcement in February until this October - is currently only available as a development system from NetLabs. SunConnect will ship it in a developers release of Encompass in June or July 1994 - a general release is planned by the end of next year - on Solaris 2.x. It says Encompass will allow users to perform network management operations from any point on the network, unlike rival solutions like OpenView and NetView/6000 from Hewlett-Packard Co and IBM Corp which are tied to single management stations. The NetLabs technology will account for around 40% of the code in the first iteration of Encompass, including multi-user domains, a repository and automatic correction features. SunConnect will supply stuff it says is missing, like a graphical user interface, additional security, proxy agents and a portable management interface for high-level object binding, and protocol interoperability between Encompass, NetLabs and SunNet Manager.

Cooperative Consoles

The next release of SunNet Manager, version 2.2, announced back at InterOp (UX No 451), is seen essentially as an interim product for bridging existing SunNet Manager 2.1 and older release users to Encompass. In anticipation of Encompass' object-oriented features, 2.2 will include dynamically-linked and static libraries. Indeed, 2.2's dynamically-linked manager services and 2.2 agent services will be included in Encompass, which will therefore run 2.2 applications. 2.2 users will be able to share a repository of event information and network topologies with Encompass - or other 2.2 implementations - via a NetLabs-based component SunConnect is calling Cooperative Consoles. Cooperative Consoles comes with Encompass but will be available separately as a migration tool for 2.2 users. NetLabs' SQL-based relational database, report generation tools and a data aggregator are also available for 2.2 and Encompass users, for storing and retrieving process configuration and event information, and is packaged as Cooperative Reporting. Both modules use the DeskTalk System Inc Trendsystem 2.2. SunNet Manager 2.2, Cooperative Consoles and Cooperative Reporting will be out on Solaris 1 and 2 in the first quarter of next year - Solaris x86 versions of 2.2 are due by the third quarter, though a developer release is around from this month. SunNet Manager and the cooperative modules (and Encompass) will continue as parallel product lines for the foreseeable future, the company says.

Proxies

Tilting at OpenView and NetView/6000, SunConnect will also offer proxy agents for AIX and HP-UX systems from next quarter under 2.2 and then on Encompass. The Encompass version will allow, for example, one machine to run a management application, another machine to run services and tools, and yet another to go off collecting information using these proxies. In addition there will be a new range of system administration tools for Encompass built according to Desktop Management Task Force specifications. Furthermore, SunConnect says it is still working on its existing agreement to develop links between Novell Inc's Netware Management System and SunNet Manager : it expects the links to apply to 2.2 first, then Encompass.

Object broker

With Encompass, SunConnect is effectively offering a multi-user object broker mechanism for network management, something it hopes will provide a significant technology gain over competitors. Dimons, however, is not based upon Object Management Group object standards such as the Interface Definition Language, but on the ISO-defined GDMO object architecture, created specifically with network management in mind. Encompass, and all of its associated objects are based upon GDMO. The problem with IDL and OMG standards, says SunConnect, is that they are only embryonic and not available as technologies relevant for delivering products in the short-term. The biggest customer for Unix-based network management, the telecommunication industry, has mostly standardised on GDMO in any case, says SunConnect. It says it'll provide gateways to OMG-based object brokers over time, as well as services to recompile IDL definitions for Encompass. As network management and distributed systems management solutions become closer over time, there will in any case be a greater synergy between the technologies they use.

SunConnect and NetLabs say that together they have shipped over 50% of Unix-based systems management solutions so far installed. SunConnect claims 13,000 SunNet Manager licensees. Last year's IDC figures show SunNet Manager with 33% of the market, OpenView with 21%, OverLord at 14%, Ungermann-Bass NetDirector with 9%, Synoptics Lattisnet Manager having 7%, Cabletron Spectrum at 6% (the last two also SunConnect resellers), DEC DECmcc with 6% (though DEC has since adopted NetView/6000), NetView/6000 with 3% and Lexcel Lance with 1%. SunConnect claims around 70 applications up on SunNet Manager, roughly the same number as are available for OpenView.

In the standards arena, both COSE and X/Open Co are looking towards persistent technology interfaces for network management, although the area itself is a priority for neither. Broadly, interfaces are likely to embrace the Simple Network Management Protocol, an extensible agent based on Desktop Management Forum standards that allow different network management protocols to be integrated and managed from a single interface and OMG IDL to define administrative objects. IDL may form part of an API to write applications, or could - as SunConnect presumably hopes - be specified as simply one way of writing applications. X/Open's existing low-level XMP network management standard allows applications to talk to OSI CMIP or SNMP without using higher-level services, though in practice virtually no ISVs are using it, SunConnect says.

Although network management providers are extending their products to include services which support other vendors' systems, there is still little likelihood of an implementation of one solution being offered on a rival's box. It is "not a mature market," says SunConnect, arguing that Unix-based network management suppliers have enough to do just "to be able to let them [customers] do what they want at the moment."

DEC DEBUTS OSF/1 2.0 IN JAN, SMP VERSION IN 2ND Q

Digital Equipment Corp says it will release a new version of OSF/1 in January 1994, followed by a new symmetric multiprocessing release in the second quarter. Although DEC takes a base version of the operating system from OSF, it adds its own bells and whistles to it and numbers its releases differently to the Foundation's. DEC's OSF/1 version 2.0, complies with Posix 3.2 and conforms to XPG4. It will also include C language functionality, and conform to SVID4. This means that the Habitat optional layer, which sits on top of the OSF/1 kernel to provide an SVR4 personality, will now become a standard part of the operating system. As a result, when the SMP version comes along, it will also be able to run SVR4 SMP applications. DEC says it did not go elsewhere for its SMP technology, but simply developed the work it has already done on VMS and Ultrix. It added that applications including threads will benefit performance-wise from the threads built into both SVR4 and OSF/1.

SOFTWARE ROUNDUP

OBJECT DESIGN SHIPS VERSION
3.0 OF OBJECTSTORE

Object Design Inc has started shipping version 3.0 of its ObjectStore distributed object database, which it believes will pave the way for moving it more into the commercial mainstream. The product has been re-designed and re-written, and one immediate benefit is its more efficient use of memory and disk. The low level data structures that manage database storage used to take up 16Kb of memory, but have now been reduced to 2Kb, while a database compactor enables users to reclaim space that is sitting dormant on the disk. Furthermore, while different clients could always talk to the server, not all the clients could talk to each other - RISC-based clients, for example, could not communicate with Intel-based machines. But this is no longer the case. Incidentally, the Burlington, Massachusetts-based company will release a beta version of ObjectStore for Microsoft Corp's Windows NT on Thursday. It already supports the PowerPC chip, running IBM Corp's AIX 3.2.5, although Object Design says it will wait to see which vendor's version of PowerOpen takes off before thinking about supporting it. Further enhancements to ObjectStore include online backup; dynamic type creation, which enables developers to add schema information at run-time and means new objects can be created on the fly without the need to compile or link them to others; and internationalisation capabilities. All visible user text, such as error messages and installation catalogues, is stored in message catalogues, and international versions of ObjectStore can be generated by translating the text in the message catalogues. All graphical user interface text, such as menus and dialog boxes, is stored in resource files, and can be translated and displayed in any language or font, with only minor adjustments needed for text and string length. Version 3.0 of ObjectStore is available now under Sun Microsystems Inc Solaris and SunOS, but versions for Hewlett-Packard Co's HP/UX, Digital Equipment Corp's Ultrix, IBM Corp's AIX and OS/2, NT and Novell Inc's NetWare will follow in April, starting at \$3,500 per seat. And Object Design also plans to add other features to its database over the next couple of years, such as object-level security, asynchronous input-output, multiversion concurrency control and symmetric multiprocessing.

OPENVISION DEBUTS OPENV*ASSETS
ASSET MANAGEMENT TOOL

Distributed systems management contender Openvision Inc has started shipping OpenV*Assets asset management software, which tracks the cost of running Unix systems and personal computers on a network of up to 100 nodes. OpenV*Assets collects hardware, software, vendor, configuration, financial and purchasing information for systems managers, groups it into modules, and presents it in configurable views on a Unix workstation. It provides audits and configuration reports on demand, and is based on two products - Applied Innovation Management Inc's open event manager, which analyses system resource configuration; and Tally Systems Corp's Census Recognition Technology, which builds up an inventory by retrieving software by brandname, version number and serial number, and hardware by brand and model number. OpenV*Assets discovery agents - one is required for each network node and costs \$50 - run under Sun Microsystems Inc SunOS and Solaris, under Hewlett-Packard Co's HP/UX, IBM Corp's AIX, IBM-compatible personal computers as well as personal computer servers running Novell Inc's NetWare, Microsoft Corp's LANManager and Banyan Systems Inc's Vines. OpenV*Assets manager applications run under SunOS, Solaris, HP/UX and AIX with either Motif or OpenLook interfaces, and cost \$10,000 per workstation. The Pleasanton, California-based firm also plans to integrate OpenV*Assets with its other performance management applications. Meanwhile, it adds that it has appointed former vice president of the western division for third party sales at Computer Associates Inc, Richard Kreysar, as senior vice president of corporate marketing.

Software Information Dimensions Inc, a subsidiary of **Online Computer Library Center Inc**, has introduced TechLibplus, a library for automating corporate, government and technical libraries for Unix. Techlibplus is available now and runs on DEC, IBM, Siemens and Bull platforms. +44 71 497 1403 or +1 614 761 7262.

Waltham, Massachusetts-based **Interleaf Inc** has signed **Fujitsu Ltd** to distribute its document management software in Japan, integrated with its design, database, products. It also signed **Fujitsu America Inc** as a value-added reseller in the US.

Waltham, Massachusetts-based **IRI Software Inc's** Express/EIS and DataServer decision support packages are now up on Sequent's multi-processor Symmetrys. +1 617 290 4658.

Clarify Corp's customer service management software is now available under Oracle7 and for the RS/6000: ClearSupport starts at \$6,000 per user, ClearQuality goes from \$4,000 per user. +1 408 428 2017

There will be two more snapshots of the **Open Software Foundation's** OSF/1 1.3 release before general availability.

OSF says it has formalised the arrangements for delivering the **DEC, Hitachi** and **IBM** developed Project Calvin test framework - which is to form part of X/Open Co's commands and utilities test suite for evaluating XPG4 and Posix compatibility - to the standards group, but doesn't say what those arrangements are.

Currently battling it out for a systems management ticket, **Tivoli Systems Inc** says it has won **Charles Schwab & Co** for the Tivoli management environment, applications, services and support in a deal worth \$2.3m over two years to manage a client/server network of several hundred brokerage offices and regional telephone centres across the US.

Cadre Technologies Inc has put its Teamwork software development tools up on Solaris x86.

Software Research Inc is extending the scope of its software testing tools this week. STW Advisor examines code against a range of quality-testing benchmarks and outputs reports and diagram. The San Francisco, California-based firm is integrating its tools with the **Interactive Development Environments'** Software Through Pictures software design system; and is putting all of its products up on Silicon Graphics Inc boxes. +1 415 957 1441.

Northampton, Massachusetts-based **VI Corp** is now offering version 3.0 of its DVX-Designer package for designing animated graphics under Motif: DVX-Designer combines VI's DataViews 9.5 with **Imperial Software Technology Ltd's** X-Designer 3.0 Motif graphical user interface builder: prices go from \$3,500.

NCR Corp has signed four independent software vendors to integrate their management applications into its StarSentry systems management environment. **Peregrine Systems Inc's** ServerView and StationView will manage **Novell Inc** NetWare servers and clients; **Bridgeway Corp's** EventIX will provide access to proprietary, non-SNMP systems; **Network Application Technology Inc's** Multi-Vendor Support Series and EtherMeter will collect and interpret RMON-based data cost-effectively; while **Isicad Inc's** Command 5000 will provide comprehensive asset and network configuration information to network administrators and troubleshooters. No pricing or availability given.

San Leandro, California-based **MDL Information Systems Inc** will port its Integrated Scientific Information System/Host software for managing scientific information across multiple databases to Silicon Graphics Inc's Challenge symmetric multiprocessors by autumn next year: the client portions are already up on SGI workstations.

Laurel, Maryland-based **Century Computing Inc** has released TAE Plus version 5.3, a software development environment providing development tools for building graphical user interfaces and management tools, which control the application's user interface at run-time. Although targeted at application developers and graphic artists, users don't need to know X Windows or Motif, the company claims. Available now for Sun workstations, HP, IBM and SGI ports will follow. A one-user licence costs \$2,250 rising to \$11,200 for 15. +1 800 823 3228x

BBN Systems and Technologies Inc is now offering DEC's Alpha AXP RISX workstations running version 3.1 of its BBN/Probe visual data analysis software for scientific and engineering applications as the ProbeStation AXP series. BBN/probe, now up under OpenVMS on the re-badged DEC 3000 series, will be available for OSF/1 by the end of the first quarter of next year. +1 617 873 2559.

OSF ADOPTS BULL'S INTEGRATED SYSTEM MANAGEMENT AS STANDARD

The Open Software Foundation has adopted the application programming interface of Compagnie des Machines Bull SA's Integrated System Management network management tool as a standard. ISM is essentially an implementation of Bull's Distributed Computing Model, which enables networks of heterogeneous systems to be managed over TCP/IP and International Standards Organisation protocols as well as under Bull's proprietary communications architecture, the Distributed Systems Architecture. The latter runs under Bull's proprietary GCOS mainframe and minicomputer operating systems via X25. ISM includes OSF's Distributed Computing Environment technology, and is portable between different versions of Unix. Meanwhile, Bull has been busy enhancing the product and will release version 2 by the end of the year. It will include an integrated network monitor, the ability to customise icons and background filters as well as set alarms and thresholds. ISM Trouble Ticket, a help desk facility based on Remedy Corp's Action Request System, and ISM Backup/Restore, based on Raxco Inc's Backup.Unet, have also been incorporated, as have plug-in application modules for managing hubs, software distribution, routers, databases, and Bull's GCOS operating system. In addition, a PC/Workgroup Management module provides agents for managing Microsoft Corp's LANManager and Bull's OpenTeam. ISM version 2.2, which is scheduled for release in the first quarter of 1994, will also support another module for managing Novell Inc's LAN NetWare. Integrated System Management comes bundled with Bull's DPX20 machines and system prices start at \$25,000.

NEC DECIDES TO TAKE UP ITS BULL RIGHTS IN FULL

NEC Corp has decided to take up its rights in the grand Compagnie des Machines Bull SA recapitalisation, and will invest another \$65m to maintain its 4.43% stake in the floundering company. In return for its additional investment, NEC gets agreement from Bull that the French company will favour NEC in colour thin film transistor liquid crystal displays, and application-specific and memory chips, and will help NEC with sales of automated fingerprint systems and very small aperture terminal satellite earth stations in the Commonwealth of Independent States and other former Comecon countries, where Bull has long-established bases. The collaboration on DPS 9000 and DPS 7000 mainframe hardware - now mostly built by NEC - and software will of course continue.

NOVELL TO CHASE MICROSOFT AT WORK WITH EMBEDDED VERSION OF NETWARE

Novell Inc is off after Microsoft Corp and its Microsoft at Work embedded operating system. Novell says it is looking to extend NetWare's reach into factory floor, office equipment and consumer electronics systems. According to the Provo, Utah company, its Extended Networks Group is planning to launch an architecture this January that will deliver NetWare services to disparate low-tech environments. These will include factory machinery, refrigeration and cooking equipment in fast-food chains, point-of-sale systems, and office equipment such as facsimile machines and photocopiers. Such devices, which tend to be proprietary and semi-intelligent, will be prepared to receive NetWare services through embedded client software, scaled-down operating systems and network boards, says the company. Novell already offers FlexOS from its Digital Research Inc acquisition: FlexOS is described as a "very small" real-time operating system now used primarily in point-of-sale equipment - ICL Plc, IBM Corp, Fanuc Ltd and Siemens AG are all OEM customers.

POWERPC 603 COMPONENT KIT FOR CADENCE SIMULATORS OUT EARLY 1994

Motorola Inc and IBM Corp have developed a PowerPC 603 component kit, complete with a simulation model of the architecture, for Cadence Design Systems Inc digital logic simulators, the Verilog-XL Turbo and Leapfrog VHDL. It contains the necessary data to design printed circuit boards based on the 603 architecture, and will be available from Motorola in the first quarter of 1994 at \$4,900. The kit runs on RS/6000s and Sun Microsystems Sun 4 machines.

XEROX TO TAKE \$700m HIT TO CUT 10,000 JOBS

Xerox Corp joined the ranks of floundering giants last week to take massive hits against its profit-and-loss accounts to cover the cost of making armies of employees redundant. The Stamford, Connecticut company, which has regularly disappointed its fans ever since its core copier business started to go ex-growth in the early 1970s, is to lay off 10,000 of its 97,500 employees worldwide, in part to reduce management layers, and will take a restructuring charge of \$700m or \$6.82 a share against its fourth quarter figures. Settlement of a 1992 anti-trust suit related to parts and software will cost it another \$154m net, or \$1.50 per share. At least half the lay-offs - to be achieved by attrition, involuntary lay-offs and some controlled voluntary offers - will come next year and it will also close some plants, but it gave no other timetable or details. It is also considering outsourcing some of its operations. "The initiatives we plan reinforce our basic commitment to participate in the growing opportunities in the digital publishing, electronic printing and colour markets," chairman and chief executive Paul Allaire said. The anti-trust settlement involves a class action suit for selling spare parts for high volume copiers and printers to independent service organisations. It provides for changes in Xerox policy to permit their sale to independent service organisations and the licensing of printer software. Discounts of \$225m exist for members of the plaintiff class to use as partial payment on future purchases of Xerox parts.

NORSK DATA RALLIES AFTER ACQUISITION BY NORWEGIAN BANK

Since Norsk Data A/S was bought over by Den Norske Bank earlier this year and changed its name to Nordic Data A/S, it seems to have sorted itself out financially. Den Norske Bank effectively wrote off the firm's debts, so during 1992, it says it generated £77m in turnover, and £9.6m profits. The UK alone brought in revenues of £18m and increased staff numbers by 30% to 320. The company is split into three divisions across all its major sites in Scandinavia, the UK and Ireland. These comprise: ND Serviceteam, which makes up about 80% of total sales and provides a whole range of computer services, including maintenance, systems integration and disaster recovery; ND Applications, which contributes about 15% of total turnover, and develops specialised Unix software, such as planning applications for environmental and other local government departments as well as pre-press applications for regional newspapers; and ND Repair Centre Services, which undertakes general repair work for both Serviceteam customers and third parties. Moreover, Nordic Data has just won a £2m maintenance contract from the UK Met Office, ahead of IBM Corp and Hewlett-Packard Co, to maintain its hardware and networks for three years.

ADVANCED RISC MACHINES WINS CIRRUS LOGIC AS FIFTH ARM LICENSEE

Advanced RISC Machines Ltd, Cambridge has won another licensee for its ARM RISC design in the shape of Cirrus Logic Inc, which becomes its fifth silicon partner. The Fremont, California company will take core technology designs based around the ARM 7 family of chips and will use it as the basis of parts for personal digital assistants, higher throughput serial input-output controllers for servers, and embedded multimedia applications. Fabrication will be done at eight foundries undisclosed by the firm. The ARM7 technology will give it a route into Apple Computer Inc, Cirrus says. The UK RISC designer's fabrication partners are VLSI Technology Inc, GEC Plessey Semiconductors Ltd, Sharp Corp and Texas Instruments Inc. Separately, Cirrus and its Pixel Semiconductor subsidiary formed a strategic alliance with ITT Semiconductors, the Friberg, Germany arm of ITT Corp to do "innovative low cost" multimedia chips next year.

LSI LOGIC HAS NEW GENERATION OF EMBEDDED MIPS RISC CORES

LSI Logic Corp has launched the next generation of its Mips Technologies Inc RISC family for ASIC and embedded control applications, based on a new CPU core that is 50% faster - the 5V version has peak performance of 50 MIPS, the 3.3V 35 MIPS, and 70% smaller than its predecessor. The new CW33300 core can be used with other off-the-shelf cores from the Milpitas, California chipmaker, such as input-output and bus interfaces, cache memory, graphics engines and compression protocols - to design high-performance, systems-on-a-chip. The new Mips Technologies portfolio includes embedded controllers, development tools and the Turbo Rocket evaluation board. No prices or availability details were given.

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While the **Open Software Foundation** said as little as a month ago that it will not develop its own Object Request Broker for the Distributed Computing Environment, preferring to go with a reference platform and deliver object services for applications on top (UX No 461), it now reckons it will have several reference platforms, but provide a base line for interoperability. No decisions have yet been reached.

Looks like **Sun Microsystems Inc** boss Scott McNealy's overtures to **ICL Plc** fell on deaf ears last week (UX No 465): sources say it would be a very long time indeed - if at all - before ICL would think about switching to Sun's Solaris Unix. Sun is keen for the business - IDC figures show ICL Sparc servers out-selling Sun's server systems 2:1 in Europe.

NeXTWorld Expo '94 in San Francisco between June 20 and 23 takes on more significance in light of Jobs' partnering with McNealy's Sun Microsystems Inc: organiser DCI in Andover, Massachusetts, is calling for presentations by December 15. +1 508 470 3880.

Following the expected demise of **Unix International** at the end of this year, **Novell Inc** will, as had been expected, form a club for UnixWare OEMs and users that will likely mirror some of the technical and technology input processes that UI established for Unix SVR4: Novell is already referring to the vehicle as UTG, UnixWare Technical Group, though other names, including Novell Advanced Group have been bandied.

IXI Ltd is preparing to unveil a slew ISVs for its Win-tif technology that adds Windows look and feel to Unix applications. Unnamed ISVs will apparently unfurl versions of Win-tif in a variety of guises, including one for Windows NT, a Windows-to-Motif version, an Open Look implementation and others.

The increasing use and importance of the Internet has drawn many column inches in newspapers and magazine of late, and next year's Unix Expo show between October 4 and 6 will for the first time feature an Internet Village within the exhibition hall.

The **Open Software Foundation** says Motif 2.0 will use the same drag and drop mechanism as Motif 1.2 (UX No 464).

Unix International will hold a final board meeting in the first quarter of 1994 to formally dissolve the corporation.

Former **Interactive Systems Corp** boss, and more lately senior vice president of marketing for **Sequent Computer Systems Inc**, Dennis Peck, has joined **Unisys Corp** as vice president of marketing and sales in the client/server division which includes Unix systems, PCs, CTOS and Windows NT.

NEC may have done its bit for **Bull's** \$1.5 recapitalisation plan - see page 7 - but **IBM** is now hinting it may not be prepared to inject any more cash into the ailing firm. EC approval of further funding from Brussels hinges on the participation of both Bull's minority partners.

Commenting on suggestions that Chicago would not be out by next September, **Microsoft Corp** acknowledged that the main obstacle is to get it to run on personal computers with 4Mb of memory: spokesman Collins Hemingway said that current test versions of Chicago run applications 20% slower than the same programs on the Windows 3.1 system - "We're quite happy with where we are," he said, adding that the second developer's release is being shipped now and a beta test version will be sent out to users in February or March; chairman Bill Gates told a Wall Street analyst that the product might ship in October, but the company has consistently set the end of calendar 1994 as its target.

Digital Equipment Corp says it will ship 225MHz and 275MHz versions of its Alpha AXP chip in January or February next year.

The manager of OSF/1, Steve Jenkins, doesn't want the job now that he's not directly reporting to **DEC Computer Systems Group** VP Bill Demmer anymore, and is instead supposed to report to Don Harbert who's been moved in to oversee all operating systems on the engineering side: OSF/1, OpenVMS and NT. Things like this have been happening since DEC decided to finally separate marketing from engineering. Also Demmer's expected to retire next year, insiders say, and is tidying up.

The **X Business Group** is putting together an X conference on the two days before UniForum in March next year: Exploring the future runs on Monday 21 and Tuesday 22. + 510 226 1075.

Orion Scientific Systems Inc, Irvine, California, is offering a Unix-based law enforcement data analysis system, Orionleads, which supports text, graphics, images, sound and reports. +1 714 261 0226.

Business Objects SA will ship version 3.0 of its relational database access tool (UX 462) on December 15 in Europe. The Marlow, Berkshire-based firm will make its add-on Business Analyzer reporting module available under Unix by the middle of next year - currently there are only Windows, MS-DOS and Mac implementations.

IBM Corp, which started shipping its Power-Parallel system in September, says it has shipped 35 of the things so far and expects 30 more orders by the end of the year; the whole parallel sector shipped fewer than 600 machines last year; most of IBM's are 16-processor systems that cost about \$500,000, but it has a few orders for 128-processor systems that cost over \$3m each, the *Wall Street Journal* reported, warning that the business was far from being a gold mine, with vendors slashing prices to win sales.

US Congress has given the **Sematech** US government-industry chip fabrication equipment consortium in Austin, Texas, its requested \$90m Pentagon contribution in the fiscal 1994 Defense Appropriations Bill, but warned it that the government was unlikely to be able to sustain such levels of investment.

Menlo Park, California-based **Versant Object Technology Inc** reports that its object database has been chosen by Telecom Australia to serve as the underlying database management system for its next generation of intelligent network services, which will include new services such as the One-3 geographical call routing service and the Telecard telephone charge card.

Quorum Software Systems has unveiled version 1.3 of its Equal Mac-under-Unix applications adaptor for Sparc and Silicon Graphics Inc Indigo machines: Equal 1.2 already includes bundled versions of Microsoft Corp's Word and Excel applications - version 1.5, due by the middle of next quarter, will also include PowerPoint and Mail, bringing the complete Microsoft Office set - ironically the 32-bit Mac versions - to Unix users.

Richard Hackborn, executive vice president and chief of **HP's** computer products unit is retiring at the end of this month and will be replaced by protegee, Richard Belluzo, vice president and general manager of HP's hard-copy products group. Hackborn is regarded as the person responsible for transforming HP's laser printer business into a multibillion dollar concern.

SunWorld '94 is scheduled for June 14-16 at the Moscone Center in San Francisco. Meanwhile, the Usenix Winter 1994 Conference is set for January 17-21 in San Francisco.

AGE Logic Inc is reorganising its software engineering department and has named Paul Edmonds, former vice president of engineering at SunSoft, as its vice president, embedded engineering, a newly created position. Bob Alford, formerly vice president, engineering, will concentrate on desktop products as vice president, desktop software engineering.

Apple Computer Inc software house, **Iconix Software Engineering Inc**, is giving away a free Macintosh Quadra with every PowerTools computer-aided software engineering package it sells during December.

Don't you feel faintly irritated by the Intel inside sticker on the front of new computers and want to rip it off (fortunately it comes off quite easily)? Well believe it or not, **Intel Corp** either takes it very seriously or has absolutely no sense of humour - but then it may be hard to retain a sense of humour when you've shelled out \$100m for "creative development", television air time and print ads on the thing so that when **Cyrix Corp** responded cheekily with its Cyrix instead campaign and a sticker with "ditto" inside a scrawled circle, and now Intel is suing Cyrix and its advertising agency, alleging trademark infringement; emphasising its lack of humour. Intel told the *Wall Street Journal* that Cyrix was desperate to get itself noticed, and probably launched the campaign in order to get the publicity that a lawsuit generates - in which case, why give Cyrix the satisfaction?

Why are the PowerPCs called the 601, 603, 604 and 620? Simple typo, says **Apple Computer Inc** - it should have been the 602, but was mis-typed on early design papers.

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HEWLETT-PACKARD DESCRIBES ITS PA METTLE

Following similar declarations of silicon intent by its industry peers over the course of this year, Hewlett-Packard Co will today delineate the future for its own 64-bit Precision Architecture RISC architecture during 1994 and beyond. Rumblings detected a few weeks ago (UX No 462), proved to be only the tip of the iceberg, as the company's marketing manager for advanced technologies, Jan Silverman, laid out a roadmap for the PA RISC that goes from the low-cost 7100LC to 7150 and 7200 iterations of the current processor line and on to next-generation PA-8000 and PA-9000 lines.

7100LC low cost uni-processors

In chronological order, the long-awaited 7100LC, a uni-processor technology, is first out of the gate. It will feature in a variety of Unix workstations and servers configurations due to be announced in the New Year (UX No 466 and see below) and in MPE servers and new LAN servers scheduled for mid-1994. The superscalar 7100LC comes as a board with CPU, and generic graphics and I/O chips, plus DRAM. The CPU combines two integer units - executing two instructions per cycle - floating point co-processor, memory and I/O controllers. There's a small on-chip instruction buffer, but combined instruction/data cache - 8Kb to 2Mb - resides off-chip. Up to 2Gb DRAM can be attached. The 14mm square device is fabricated in 0.8 micron, 3-layer metal CMOS technology and provides 48-bit virtual addressing. Initial versions will clock at up to 80MHz, though iterations going to 120MHz are planned. "Hummingbird" as the part has been known whilst under development, has on-board digital imaging, video and audio support with JPEG and MPEG, and is rated at 130 SPECfp92 and 84 SPECint92 in 80MHz implementations. The part is bi-endian, and therefore Windows NT-capable - 7100LC boards in the Gecko workstations will be less than half the size of Pentium boards, HP claims.

Symmetrical multi-processing desktop, 8000, 9000....

Next out of the gate is PA-7150, essentially an upgrade of the current 99MHz 7100 that'll start at 125MHz and top-out at 150MHz. It'll power the fourth generation of HP's board-upgradable workstations - which span 720, 730 and 735 - and is touted at 135 SPECint92 and 200 SPECfp92. The 7150 will only feature in workstations, the first of which will appear mid-1994. The next real-leg up in performance comes with the PA-7200, which will be formally announced in February. It'll feature in workstations and servers, due some eight to 12 months thereafter, including HP's first symmetric multiprocessing desktop. The bi-endian 7200 will introduce new SMP, come with enhanced cache management and appear in low-cost LC guises. Eschewing 64-bit flat addressing until the middle of the decade "when the applications are there to take advantage of it," HP's first stab at this tier of CPU technology comes in its next-generation PA-8000. It'll offer some 96-bit functionality via 32-bit segmentation, include dual floating-point units, higher bandwidth memory interconnect and speculative execution. The integrated, single-chip part will start at 200MHz and go up. Further out, the PA-9000, due in the 1997-98 timeframe is described as "more than superscalar" and will offer increased parallelism.

New Year Geckos

Hewlett-Packard Co's New Year Gecko line (UX No 466), will feature a PA-RISC 7100LC, HP-UX-based enterprise desktop system starting \$3,995. According to sources in the US, models 712/60 and 712/80i - reflecting 60MHz and 80MHz clock-speeds - are rated at 58 SPECint92, 79SPECfp92 and 84 SPECint92, 79SPECfp92 respectively. Memory goes from 16Mb to 128Mb, disk from 260Mb to 1Gb. They support Tele-Share, HP's add-in card combining data and voice communication. Servers, the 800 Models E25, E35 and E45 run at 48MHz, 64MHz and 80MHz respectively, are rated at 44 SPECint92, 66 SPECfp92; 65 SPECint92, 98 SPECfp 92 and 80 SPECint92 and 120 SPECfp92 respectively. They're expected to go from between \$5,000 and \$10,000, with \$8,700 bandied as a realistic configuration. The workstations come with RTW, a Ready-to-Ware interface builder which will feature Wabi, the SunSoft Inc Windows-under-Unix system, an MS-DOS emulator and MPower 2.0, the second take of HP's multimedia bundle. Andatco Inc's Xcelerated Likem Mac emulator, and Steve Jobs' NeXtStep will be up on the things by May/June, around the same time as servers running native NetWare. They'll roll as soon as Novell completes work on the processor independent NetWare. New 7100LC X terminals, the Etria line, will also debut in the January announcement.

MICROSOFT UNIMPRESSED WITH X/OPEN INVITATION

As we went to press, Microsoft Corporation had not yet received a formal request to submit its Windows applications programming interfaces to X/Open, following the surprise public invitation issued at standards group's X/Open Xtra conference in Rome the week before last (UX No 466). In fact Bob Krueger, Microsoft's representative at the conference, happened to be out of the room at the time the verbal invitation was extended and didn't realize the request had been made until contacted by *Unigram.X*. Krueger, however, is singularly unimpressed by the idea. "We need to understand what the problem is," he said. "Specifications for Win32 were out for at least two years before NT shipped, and they're available for all today - unlike some products, NetWare for instance." Krueger said Windows APIs are stable and that any "branding" of Windows products by X/Open was out of the question. "Windows clones are not a possibility - there is only one Windows, which is a trademark of Microsoft." Anyway, he said, "in the end people buy products, not specifications." Microsoft worked with X/Open on SMB Server Message Block Protocols to make it possible for MS-DOS and OS/2 clients to communicate with X/Open compliant servers (UX No 328). "It took three years of work, and I'm not sure if it was time well-spent. We want to work to solve our customers' problems." Krueger said he wondered if X/Open was truly an interoperability organisation or still just a Unix group trying to widen its scope and credibility. His inclination is to peg it as simply a Unix group, which in truth it has always appeared to be historically and otherwise. Indeed Microsoft's implicit alienation from it intensified a few months ago when X/Open acquired the Unix 1170 spec. However, Microsoft is a member of X/Open's ISV Council, if not a sponsor, and realizes that it needs to communicate better with users about the role it already plays and allay any concerns.

Because of the festivities next week, there will be no issue next Monday. We return, hopefully refreshed, with Issue No 468, dated Monday 3rd-7th January 1994, marking our tenth year of publication. The staff of Unigram.X in London and New York would like to wish all of its subscribers and sources a happy Christmas and a successful New Year.

LEGENT DEBUTS LDM/XP DISTRIBUTED DATABASE MANAGEMENT TOOLS

Legent Corp has unveiled Legacy Data Mover/XP, a suite of applications for migrating mainframe databases to client/servers systems. LDM/XP, a Distributed Database Management product (UX No 460), is based on Legent's Cross Platform Environment (XPE) architecture, and comprises five migration tools: LD-Extract, which supports IBM Corp's DB2 and VSAM, and enables users to access and extract data, based on their own criteria, from databases residing on the mainframe. LD-Conversion supports DB2, DB2/2, DB2/6000, Oracle, Microsoft Corp's FoxPro and DBF, and uses mainframe processing power to convert the extracted data into the same format as the target server environment. LD-Transport supports IBM's MVS, OS/2, and AIX, Sun Microsystems Inc's SunOS and Solaris and Microsoft's Windows, and moves the data from the source to the server. LD-Apply supports DB2/2, DB2/6000, and Oracle Corp's Fast Loader, and bypasses the database load process to speed the loading of data onto the server. LD-Administrator manages the work flow. These tools should be available by the first quarter of 1994. LD-Extract is scheduled to support IBM's IMS and Software AG's Adabas, and LD-Conversion to support Sybase by the third quarter.

LEGENT FLEXPLAN TACKLES SOFTWARE PRICING FOR DOWNSIZERS

Mainframe software pricing is so onerous for the user that it has become a key determinant driving downsizing to open systems, so software vendors from the mainframe world cannot hope to survive if they retain their mainframe pricing culture among their baggage when they introduce Unix versions of their products. Legent Corp is the latest company to face up to this uncomfortable fact, and it has introduced what it calls Flexplan, claiming that it makes it easier for data processing managers to manage their software expenditures as they move from the mainframe to client-server computing. The Herndon, Virginia company describes Flexplan as a five-year programme for both new and existing Legent customers that provides flexibility, price predictability and investment protection, regardless of whether they expand their mainframe usage or move off the host to a client-server environment. The company is also making it possible for its users to earn credits towards client-server software when downsizing or eliminating their MVS systems. Under Flexplan, customers pay a one-time premium, and for that Legent provides budget protection against significant future increases by giving customers wide latitude to install larger CPUs without an associated increase in licence costs; maintenance costs are also defined for five years. Flexplan also offers more flexibility in transferring products between CPUs. Flexplan attaches to individual MVS product licences, but is only interesting for those that expect change in their information processing strategy, whether that change involves a migration to client-server, upgrades of CPUs, or reduction in host processing. Flexplan customers will be issued non-CPU-specific authorisation codes to reduce their licence management administration. Credits for those moving to client-server computing or otherwise downsizing are given towards Legent's XPE family of client-server systems management products, and are based on a formula tied to a product's current list price and the year in which the downgrade or cancellation occurs. Legent already offers a MIPS-based site licence agreement, which allows customers to license products on a site basis tied to either a maximum number of CPUs or a total capacity measured in MIPS, and this is being expanded and added to Flexplan.

CREATIVE BUYS INTO VOICE PROCESSING

Singapore-based Creative Technology Ltd is looking to take its market-leading sound boards onto a higher plane, and has done a deal with Cambridge, Massachusetts-based Voice Processing Corp for the latter's continuous, large vocabulary, speaker-independent speech recognition technology for integration into future multimedia products. Creative Technology will pay \$2.5m cash for an undisclosed minority equity stake. It may also pay Voice Processing up to \$4m more to fund development, and to acquire an additional equity stake. Initial products are due in the second quarter of 1994, to be followed by the release of products with more advanced capabilities later in the year. The Digital Equipment Corp DECvoice and the IBM Corp DirectTalk 6000 systems both use Voice Processing's technology.

ONTOS UNVEILS NEW OBJECT INTEGRATION TOOLS AS EX-IBMER CARY JOINS BOARD

Ontos Inc has just received \$8m in venture capital funding from a group of investors headed by J P Morgan Capital and Wolfensohn Associates LP, and will use the cash to prepare for the 1994 roll-out of products based on its new "Object Cohesive Enterprise" framework. Object Cohesive Enterprise is the Burlington, Massachusetts-based firm's new architecture for integrating object applications with commercial "legacy" ones. It will be announced in the first quarter of next year along with the first two products in the family, and enhancements to the group's database Ontos DB. A third product will follow in the second quarter, and others will appear during the course of the year. Ontos will sell this enabling technology direct to "end-user corporates", systems integrators and distributors, but will rely on value-added resellers to develop applications for vertical markets. Meanwhile, the company says it has appointed ex-chairman and chief executive of IBM Corp, Frank Cary - who must be getting on a bit, to its board because of "his understanding of IBM, which will be useful as we move into the commercial mainstream". Two other people "of equal stature" to Cary will be appointed.

SCO AND NOVELL ENTER CROSS-LICENSING AGREEMENT

The Santa Cruz Operation Inc and Novell Inc have agreed to cross-license each other's technology as an easy means of enabling their products to conform to certain industry standards. SCO will take Novell source code for object-oriented application development tools. Sometime in the first half of 1994, developers will be able to buy these tools, and sell them to developers so they can build applications conforming to the Tools Interface Standard's Portable Object File Format. The Portable Object File Format essentially provides a common format between object modules. Novell, conversely, will licence SCO C compilers, which implement the C Compiler command syntax specified by X/Open Co Ltd's XPG4 Development System specification. Novell's new compilers will also be released in 1994. Meanwhile, SCO says that Sybase Inc's SQL Server Version 4.2 and related relational database management tools now run under its Open Systems Software Release 3.0 operating systems, which comprise SCO Open Server and SCO Open Desktop. Support for Sybase's System 10 will also follow in the first quarter of 1994.

X/OPEN "MAY ACQUIRE SPAG SPECS"

The Standards Promotion and Application Group SA (SPAG) says X/Open Co Ltd is "actively considering" acquiring the intellectual property rights to its Process to Support Interoperability (PSI) specifications (UX No 463). If so, SPAG reckons X/Open may well merge the contents of PSI into its XPG4 standard because the two tackle problems that are "different but complementary". SPAG as a company will now be disbanded during the first half of 1994. But six key technical people are in the process of setting up a small company to offer technical support to current PSI users. This should open its doors on January 1, and will be called the Louise Group because SPAG is located on the Avenue Louise in Brussels, Belgium. But X/Open chief technical officer Mike Lambert, speaking at the Xtra conference in Rome a few weeks ago, said X/Open would only take on the SPAG work if a business case could be made for it. "You may have noticed that SPAG went bust," he said.

APPLE REMAINS RETICENT ABOUT ITS PLANS TO EXPLOIT TALIGENT

Compared with IBM Corp's gung-ho pronouncements, Apple Computer Inc remained remarkably reticent about its plans to exploit Taligent Inc's operating system technology. David Levy, Apple UK's desktop sales manager, put his company's attitude in perspective last week when he said of Taligent: "they have some quite nice pieces of code, though some of them are looking quite dated now." Levy says that there is no commitment within Apple to do anything with Taligent's efforts, and gave the impression that Apple had a surfeit of internally-developed object-type technologies from which it can choose. Taligent's goals he says, have apparently changed to the point where its software is a rapid application development.

COULD DISCRETE SUBDIVISION FOR UNIX HELP RESOLVE X/OPEN'S PROBLEMS?

One effect of Dr Robb Wilmot's speech to the X/Open Co Xtra conference in Rome a couple of weeks ago was a seemingly spur-of-the-moment invitation to Microsoft Corp to submit its Windows specifications to the standards body's process (UX No 466). The invitation was X/Open's response to Wilmot's critique of its first 10 years, in which he challenged X/Open's claim to represent the industry when Microsoft and the non-Unix parts of Novell weren't part of its process. The fallout is reported on page one. "Spending the next decade sorting out Unix is exactly what some folks would like X/Open to do... but is this delivering real value" was Wilmot's next point. Although a recent groundswell of opinion suggests X/Open is a more suitable vehicle for sorting out Unix matters henceforth than consortia and/or industry organisations like a NewOrg, Wilmot's fear is nevertheless recognised. If industry sources are to be believed - and X/Open was unavailable to comment last week - there are indications that it might be considering ways to deal with the issue head on. X/Open has been providing an umbrella for - and become enmeshed in - the affairs of the supply side of the industry, making relations with users and their wishes - ostensibly X/Open's raison d'être - obviously difficult. A user-oriented standards body isn't really the place to settle industry issues, and that's evident in the difficulty X/Open has in trying to resolve these kinds of disputes. One insider believes that "X/Open as is can't do all of the supply side stuff." It should, he argues, form a sub-division, separate from the main body of X/Open as such that would be better and offer more safeguards and enforceable processes than a large NewOrg, for example. Supply-side disagreements usually result from each firm wanting to promote its own technology. They can't be sorted out effectively by consortia, which can do development, but can't compromise (witness the weekly falling out between the COSE firms). Even X/Open, if presented with early specifications of technology is in the difficult position of having to broker compromises. There are huge profits to be made from the systems software business and plenty seeking a share: for this reason the Unix technology bunfights must stop, says our source. If a discrete subdivision of X/Open could be created to resolve Unix issues efficiently and economically, then new divisions could be created for other difficult sectors too, he argues. Wilmot argued X/Open should move quickly to represent the rest of the industry beyond Unix, before it leaves X/Open behind. Perhaps this, insiders suggest, could be a way of achieving it.

OMG REQUEST NETS 13 RESPONSES - SHAKEDOWN EXPECTED

Thirteen companies responded to the Object Management Group's CORBA II call December 8 (UX No 466), and OMG is delighted their ranks include some new faces, such as Ireland, Dublin-based Iona Technologies Ltd and San Diego's own ExperSoft Corp, hopefully with some interesting technology. The companies will have to get their full specs in by late February when the task force assigned to CORBA II officially gets involved. The OMG expects that there will be a lot of pairing up among the companies just like in CORBA I. The companies that responded include IBM, DEC, HP, SunSoft, Hyperdesk, Symbolics, ICL, Bell Northern Research, AT&T/NCR, NEC and the Open Software Foundation. OMG's next RFI or Request for Information revolves around compound document architecture and the politics surrounding it should be a hoot since the forces behind OpenDoc and OLE are expected to square off.

NOT TO BE SNIFFED AT: NETWORK GENERAL TO PAY \$34m FOR PROTOOLS

Menlo Park, California network protocol analysis products developer Network General Corp has sniffed out a suitable complementary acquisition, in the shape of Beaverton, Oregon-based ProTools Inc. Network General, which calls its analysers Sniffers, has agreed to pay 2m new shares, worth an indicated \$33.6m, for the privately-held company. ProTools' key products are the Cornerstone Agent for remote network monitoring, and Foundation Agent, which adds network modelling and analysis. It also did the network drivers for OS/2 and is moving its software to Unix and other operating systems. Network General estimates costs of the acquisition as no more than \$5m.

PENTIUM SUPPORT FOR UNIXWARE, SMP CLOSER NETWARE INTEGRATION COMING

UnixWare users should soon be getting upgrades from Novell Inc which provide for easier installation, bug fixes and Pentium support via a new compiler. The desktop version now includes the TCP/IP stack, Motif 1.2 and a DOS/Windows emulation box. UnixWare 2.0, due next summer, will include symmetric multiprocessing and more NetWare integration, including support for NetWare Directory Services through a new release of NetWare NFS which will pass NDS changes to UnixWare directories and update NDS with new UnixWare network information. By the time UnixWare 2.1 is around, in 1995, the operating system will have adopted NDS as its directory service. In addition, US reports say Novell has handed over its remaining OSI-based Unix products to Kirkland, Washington-based Firefox Inc, which already has responsibility for NetWare OSI products.

UTG TO HAVE OWN OFFICE, STAFF

The proposed Unix Technical Group for Novell Inc Unix System Group OEMs (UX No 466) - the body that will take over some of the former Unix International's duties - is expected to have its own office and staff, separate from Novell. The roundtable organisation is not pitched as an international consortia and therefore won't have a charter like UT's. It is conceived as a trade association and dealer support group which will discuss licensing policy, future development and what kinds of standards conformance should be included in Unix. With most firms already having made the make versus buy system software decision, the question now is how the marketplace spoils will be spilt between the suppliers. The likelihood is, insiders suggest, if Novell has its own trade association/support group, that other providers will want to establish similar bodies to serve their own OEMs and vendors. SunSoft Inc Solaris and Microsoft Corp Windows NT organisations could easily fit this bill.

SQL ACCESS GROUP'S CALL LEVEL INTERFACE PRELIMINARY SPEC AVAILABLE

The SQL Access Group has published the preliminary specification document for a Call Level Interface (CLI), a third generation language application programming interface for C and Cobol developers that defines calls necessary for applications to interface with SQL. CLI is now stable enough for interested parties to incorporate it into their own products, and IBM, Apple, Microsoft, Novell, Wordperfect and Borland have indicated that they will. Since the initial snapshot, CLI has been altered to conform to SQL92. X/Open Co Ltd is reviewing the specification.

SHARP JOINS SUN'S JAPANESE OEMs...

Sharp Corp has joined the growing band of Japanese companies that market Sun Microsystems Inc workstation family, and will launch Sun machines under its own name early next year. It will also develop its own workstations and servers around the Sparc microprocessor family and running the Solaris version of Unix. Sharp expects the tie with the Mountain View company to generate sales of \$30m next fiscal, \$70m in 1997.

...AS NEC SIGNS FOR SOLARIS

NEC, a Novell Inc UnixWare distributor in Japan, has come over to SunSoft Inc's way of thinking and signed for Solaris x86 on its PC98 boxes from next summer.

LORAL PAYS \$1,575m FOR IBM FEDERAL

Loral Corp, New York, which has already taken the military side of Rolm Corp off IBM's hands, has agreed to pay a fancy price for the marginally profitable \$2,200m-a-year IBM Federal Systems Co. Loral is to pay \$1,575m in cash, to be financed by bank borrowings, and says it will be a \$6,000m-a-year company with over 35,000 staff after completion early next year. Loral sees the acquisition as complementary, adding to its avionics, command and control and space capabilities, and takes it into systems integration for commercial and government customers for the first time. Federal Systems Marketing, which sells standard IBM products and services to government agencies, is not part of the transaction. The price is seen as a good one for IBM, which needs the cash.

WE'VE SEEN THE POWERPC FUTURE OF THE MACINTOSH - AND IT WORKS

By Chris Rose

Now here is something that freezes the hearts of Mac fanatics: the very first PowerPC application that Apple Computer Inc chose to demonstrate to assorted UK hacks a week or so ago was an MS-Windows emulator. The perpetrator, of course, is Insignia Solutions Ltd, which stepped into the limelight when Microsoft Corp brought it in to write the Windows emulator for Windows NT. Before then, the company had made a good living by bringing the friendly old C:\MS-DOS command prompt to various graphical user interface-ridden machines, including the Macintosh. Though Apple fans may blanch at the idea of running SoftWindows on their machines, the corporate buyers that have been shown it love the system, according to David Levy, the company's desktop sales manager. Insignia's goal is to get Windows applications running as fast on a 60MHz PowerPC 601 as they do on a 25MHz 80486 box - this is the kind of thing that would erode corporate buyers' resolve.

Rotten

Levy claims that High Wycombe, Buckinghamshire-based Insignia's latest incarnation of SoftWindows, written as a native PowerPC application, is significantly better than the version Microsoft got for NT, and Insignia itself does not shy away from this view. Unfortunately, the demonstration was rotten. Though the familiar Windows desktop appeared in its own window and various applications, including Microsoft Word for Windows, worked just fine, the software crawled rather than ran. The company blamed the performance on RAM cram. The Windows emulation requires a 12Mb machine to run happily, and the company believes that most corporates will be buying 16Mb boxes. The minimum that any PowerPC Macintosh will come with is 8Mb - and yes, that is what was being used for the demo, with the disk drive grinding away as virtual memory was paged in and out. Whether corporates love it or not, they are going to have to fork out extra money for the emulator: Insignia's current high-end products cost around \$500; the company has yet to set pricing on the Macintosh version, though Levy says he expects some sort of bundling deal in the UK. Astute readers may be wondering where that leaves the dual processor Windows+Macs machines that Apple was showing at Comdex/Fall. Apple seems to be wondering that too - Levy says quite simply that the product "was late" and would have been interesting if launched nine months ago. In summary, avoid. So much for emulation Windows, but how about the machine's ability to emulate a standard 68000 family Macintosh? Apple will have boards to upgrade any Centris, any Quadra, the Macintosh IIvi, IIvx and the Performa 600 - upgrade prices will begin at £700. Old applications will run on the new PowerPC 601 boxes at similar speeds to a 25MHz 68040, that is, performance will be equivalent to an LC475 or a Quadra 610/700. It is clear that Apple is not going to make many upgrade sales simply on the basis of speeding up existing applications since many of the upgradable machines already run this fast. Instead, most upgraders will be attracted by the promise of super-fast native PowerPC applications, which, the company says, will perform 200% to 500% faster than a Quadra 800. All it will take is for something like Quark Xpress or Adobe Photoshop to come out in speedy native PowerPC form for those £700s to begin trickling in.

Breaking older applications

Around a dozen developers have publicly pledged their support for native PowerPC implementations, including the big two just mentioned. Apple claims that there will be 300 native PowerPC applications available within a few months of the machine's launch. The company stresses that the new machines will be Macintoshes through and through, that they will run old 68000 applications and genuine System 7.1, though it will install "a large system enabler". What this

means in practice is that Apple hasn't actually converted the whole of System 7.1 to be a native PowerPC application, instead chunks of the operating system are running on a 68000 emulator. Since the average Macintosh application spends around two thirds of its time in the operating system, it is clear that even "native" PowerPC applications for the Macintosh will actually be spending a proportion of their time under emulation. Apple's approach has been to translate the most frequently-used routines. Eventually the whole of the Macintosh System will be converted to PowerPC, but the company is taking it slowly in a effort to avoid breaking the older applications. One upshot of this is that PowerPC users will find that future releases of the operating system should further speed their native applications. In demonstration the system looked good - native and emulated applications are launched from the desktop in an identical manner and appeared indistinguishable from one another in terms of behaviour. It is a given law that operating systems will grow to fill the available CPU and memory capacity and the Mac is no exception to the rule. Until now each generation of the Macintosh System has gone a little slower as it became resource-hungry. PowerPC will reverse the trend for a while, but already plans are afoot for the additions required in order to keep one step ahead of Microsoft in the graphical user interface department. The company is working on ways to improve the user interface and progress is "well under way" on producing a context-sensitive help system for the machine, says Levy.

Cheaper multimedia

Apple is apparently experimenting with something akin to Microsoft's 'Intellisense' offering and is working on a system of 'agents', which will lurk in the background and learn what the user is trying to do. This sounds similar to the Open Sesame! developed by Charles River Associates, though Charles River says that it is not working with Apple in this area. The other sink for CPU power that Apple is investigating involves giving the PowerPC chip some of the tasks currently handled by subordinate processors. It is the kind of thing that Apple has already attempted with the 'Geoport': the lobotomised modem that bolts onto the 840AV multimedia Macintosh. The Geoport module contains all of the electrical nuts and bolts parts of a modem, but the signal processing requirements are handled on the Macintosh motherboard. The implication is that in PowerPC boxes, the CPU itself will be handling signal processing functions, and the same logic can be extended to other aspects of multi-media support. At the moment, the audiovisual versions of the Macintosh are crammed full of all the extra circuitry needed to handle video feeds, sound and the like. Expect to see these capabilities handled centrally in forthcoming machines - signal processor manufacturers will feel a draught, but the end result should be cheaper multimedia machines.

APPLE PLANS TO TAKE POWERPC RISC INTO THE SERVER WORLD IN A BIG WAY...

Apple Computer Inc's forte has traditionally been building desktop machines, but now the company plans a divergent family of server hardware based on PowerPC processors. Its attempt on the server market actually started this spring when the company launched its Workgroup Server Models 60, 80 and 95. The smaller models were essentially tweaked Centris Macintoshes, running the standard AppleShare network operating system on top of the standard Macintosh System software. The joker in the pack is the Workgroup Server Model 95, which sports a completely redesigned input-output subsystem and software. In addition, it threw out System 7 in favour of A/UX, Apple's implementation of Unix. The switch in operating system required a change in the server software too of course, and the 95 runs AppleShare Pro, written for A/UX. Apple's rough plans for the future were discovered by *MacWeek*, back in November but some of the details got garbled. At a recent press briefing in London, Apple filled in some of the gaps under the proviso that dates, prices and exact configurations were not to be mentioned. Under the server plan, the dual path will be preserved with separate A/UX and System 7-based lines. Existing Model 95 users should stand by for a software kicker early next year, after which the first PowerPC model, code-named Spam, will appear, using the PowerPC 601. There will be one more release of A/UX before the baton is passed to the PowerOpen operating system. As originally reported, a multi-processor server is also being developed to run under PowerOpen, but *MacWeek's* assertion that this is based on the PowerPC 604 seems dubious when one remembers that the 604 has had multiprocessing support stripped out. Instead the 620 would be the most obvious candidate for the machine that has been dubbed Shiner. The Workgroup Server Model 60 and 80 will also get PowerPC 601 successors - the Model 60 will get an upgrade to something Apple currently calls Red Dwarf, while the Model 80 line will bifurcate - Polaris fits into the existing chassis type and a larger counterpart Blue Giant is on the drawing board for simultaneous release.

...CLARIFIES POLICY ON LICENSING MACINTOSH SYSTEM

It is now clear that companies interested in licensing Apple Computer Inc's Macintosh System operating system are being offered three main options. First off, those that license the PowerOpen operating system for the PowerPC will get the Apple "application engine" bundled in. While Macintosh applications will run under standard PowerOpen, the Mac Finder interface will not be included - so there will be no bulging trashcan and so forth. The application engine will also be available for licensing separately from PowerOpen, which looks like a canny move on Apple's part since it will broaden the range of systems on which Mac applications will run, without Apple giving away the Finder crown jewels. And yes, the whole Macintosh System - including the Finder, is up for grabs, but you will need a very large cheque-book, the company warns.

AGE DELIVERS X IMAGING PROTOCOL

San Diego, California-based AGE Logic Inc says it has delivered the beta version of its X Windows-based client/server imaging protocol to the MIT X Consortium. X Image Extension Sample Implementation - XIE-S - provides a method for integrating documents and image data into X and Motif-based applications. AGE will have XIE products out in the next quarter allowing Windows NT users to access imaging application up under Unix. XIE-S will be included in X11R6 due next year. +1 619 550 3112

ARIES RESEARCH DEBUTS NEW ACCELERATOR BOARDS

Fremont, California-based Sparc workstation developer Aries Research Inc has developed a couple of new graphics accelerator boards, based on Sun Microsystem Inc's Turbo GXP. The TGX200 comes with 2 MB VRAM and costs \$3,100, while the TGX400 with 4 MB VRAM and costs \$3,400. Both have up to 1,920 x 1,080 resolution, offer graphics performance of up to 1.6 million two-dimensional vectors per second and 440,000 three-dimensional vectors per second. They will be available in January.

KENDALL SQUARE BOARD FIRES BURKHARDT, TWO OTHERS

The board of troubled massively parallel systems builder Kendall Square Research Corp has fired founder and president Henry Burkhardt, plus Peter Appleton Jones, a consultant who previously served as executive vice-president of its technical products group, and Karl Wassmann, a consultant who was formerly chief financial officer, senior vice-president and secretary of the company. Burkhardt will work for the company as a consultant on technical matters, as required. The Waltham, Massachusetts firm's largest shareholder, William Koch, now chairman and chief executive, says "with our new second-generation KSR2 product and a shift in market focus, we should, with good management, be able to have a successful company." Kendall Square will now emphasise commercial and industrial sectors as well as its original university market; establish an independent audit-and-finance department reporting directly to the chief executive; reorganise the manufacturing process into more of an on-demand operation; refocus its marketing efforts towards customers that are qualified to buy its products and that have their funding in place; and redirect its engineering and software development to become more market driven. Koch comments that while universities are important for Kendall Square, "with 95% of our business concentrated in this area, our company is too heavily dependent on one segment of the market, which in turn relies heavily on government funding. The target is now 80% commercial, 20% university.

DOCUMENTUM RAISES \$7M IN VENTURE FUNDING, PRODUCTS BY EARLY 1994

Documentum Inc, a Pleasanton, California company formed in 1990 to develop and market an object-oriented, client-server document management system, has raised \$7m in its second round of venture finding, bringing the total to \$9m. Xerox Corp has put up \$3.2m all told, and the remaining \$5.8m is from Brentwood Associates; Merrill, Pickard, Anderson and Eyre; Norwest Venture Capital Management; and Sequoia Capital. Formal product announcement is scheduled for the first quarter of 1994, with shipments already under way to the firm's initial targeted customers. Documentum was set up by management and engineers from Ingres Corp, Odesta Inc, Intel Corp, Cadence Design Systems Inc and Octel Communications Corp.

CANON'S NEW UK CRITERION FIRM LAUNCHES RENDERWARE

The first product from Canon Inc's British-born worldwide desktop software company Criterion Software Ltd is RenderWare, which is described as being based on "the breakthrough three-dimensional graphics software technology" from Canon. RenderWare is claimed to be the first interactive three-dimensional graphics application programming interface for Windows, providing three-dimensional graphics performance without the need for special graphics accelerators. Aimed at the multimedia market and totally software-based, it is claimed to give mid-range workstation performance from a 50MHz 80486 machine. It provides the developer with a device-independent three-dimensional object-based graphics programming interface consisting of a small number of object types and a set of associated functions, including advanced shading and texturing, Criterion says. It is available for the Macintosh and Unix and OS/2 systems as well as Windows, and since it is a software-only product, performance increases as the processor is upgraded. RenderWare software development kits, which the company said would not be announced in the UK until next month, are available immediately in the US at from \$10,000, for the development library, debugging library, documentation, examples and demos. The initial version requires Windows 3.1 running on an 80386SX or better with 4Mb memory.

MARKET ROUNDUP

Computervision Corp's Computervision Services is now an international Authorized Support Provider for **SunSoft Inc** and will provide SunSoft customers with telephone support, product revisions and error corrections as they become available from SunSoft.

XVT Software Inc is shipping PowerObjects for C its package of customisable graphical user interface building tools (UX No 453) - a C++ version will be out next year. +1 303 443 0969.

SSA Japan, the Japanese subsidiary of **System Software Associates Inc**, has launched Main/tracker, a factory maintenance scheduling package for the Japanese market. It was initially developed by **ELKE** of Minneapolis, which was recently bought out by System Software. SSA claims Main/Tracker is already installed in 2,500 sites in 36 countries. In Japan, it will be sold on AS/400s, with RS/6000 and HP 9000 versions planned, along with Japanese language support. Marketing starts this month at \$2,660.

Norcross, Georgia-based **Dickens Data Systems Inc** is to sell **Insignia Systems Ltd's** SoftPC and SoftWindows products.

Clarify Corp's customer service management software is now available under Oracle7 and for the RS/6000: ClearSupport starts at \$6,000 per user, ClearQuality goes from \$4,000 per user. +1 408 428 2017.

US chipmakers took more of the world market than the Japanese this year for the first time in eight years, Dataquest estimates. The year is not yet dead, but with typical American impatience (only America could issue a bicentennial quarter coin dated 1776-1976 in late 1975), Dataquest is already doing its numbers for 1993 and reckons US companies controlled 41.9% of the world market in 1993, compared with 41.4% for the Japanese. For the second year, **Intel Corp** was the world's largest chipmaker with 9.6%, against 7.4% for former world leader **NEC Corp**. **Motorola Inc** jumped ahead of its Japanese partner **Toshiba Corp** to take third. Dataquest reckons the world market grew 27% in 1993 to \$83,100m. Other Asian firms took 7.4%, up from 6% in 1992; the share of the Europeans fell from 10.2% to 9.3%, it said. **IBM Corp**, in the list for the first time, is in at tenth with \$2,510m sales - ranked fifth to ninth are **Hitachi Ltd**; **Texas Instruments Inc**; **Samsung Electronics Co**; **Fujitsu Ltd** and **Mitsubishi Electric Corp**.

The Wall Street and London markets have long been said to fall and rise in line with variations in the length of women's skirts, but can a more intimate study of the output of Seventh Avenue be applied to the performance of individual stocks (apart from companies in the rag trade of course)? The Wall Street Journal reports that Neal Miller, manager of **Fidelity New Millennium Fund** has made **IBM** shares his second largest holding because he expects a positive surprise in the fourth quarter figures, and because he is seeing signs of a cultural revolution at IBM - "they're wearing open collars and sports coats."

Wang Corp has integrated its Open/image software with **Lotus Development Corp's** Notes so that users of the groupware product can display and share Open/image documents within Notes applications; it will be out in six months.

Dell Computer Corp, has tapped Douglas MacGregor from **Data General Corp** to be its new vice-president of desktop personal computers at Dell Product Group LP: MacGregor was previously president and chief executive of **Solbourne Computer Inc**, which he founded in 1986; MacGregor was fired by Solbourne's board after the company failed to unseat **Sun** as market leader in the workstation business.

Wang Corp, Lowell, Massachusetts, is now shipping its Open/Office LAN-based X.400 and X.500-conformant e-mail system for **IBM Corp** AIX systems, with an HP-UX port due now. The server component is priced at from \$5,000 for up to 16 users to \$46,800 for up to 512 users. The client module, running under Windows, costs \$100 per user or \$1,500 per 25. +1 508 459 5000.

WordPerfect Corp president, chief executive and co-founder Alan Ashton is retiring to be succeeded by Adrian Rietveld: the Orem, Utah firm also denied renewed gossip of a merger with **Novell Inc**; in his first appearance since elevation, Rietveld admitted that Wordperfect had lost market share to **Microsoft Corp** in the Windows sector, but believed it was winning it back.

Burlington, Massachusetts-based **Powersoft Corp** is integrating its PowerBuilder Library with Lotus Notes. This means developers can integrate SQL and Notes data into a single application or single form, and read it from, write it to, or move it between the two repositories. PowerBuilder also connects Notes information to DB2 data or data stored in desktop file formats, as well as to Unix and midrange servers. The software is out in the first quarter of 1994.

DEC claims there are now more than 4,000 applications shipping on Alpha, with another 700 or so under development. Of this 4,000, 2,041 run under OSF/1; 1,982 under OpenVMS, and 668 under **Microsoft Corp's** Windows NT. DEC also says Munich, Germany-based **Vobis Microcomputer AG** has built what it calls a Highscreen Alpha personal computer, based on a 150MHz Alpha 21064, which will ship early in 1994.

Information Builders Inc and **Unisys Corp** are working on a new product based on Focus 4GL and EDA/SQL that will enable mainframe customers to migrate applications to U6000 Unix boxes.

Sybase Inc says it expects to double its customer site base in 1993 - it had 10,600 user sites in the first nine months of 1993, up from 6,525 in 1992, 3,375 in 1991; it reckons it is growing twice as fast as **Oracle Corp** and **Informix Corp**, and is already number two to Oracle.

Tandem Computers Inc has joined X/Open Company Ltd as a full Technical Buy Out Member.

IBM Corp is to manufacture - in Charlotte, North Carolina - the Sentry-E fault-tolerant computer designed by the **Sentinel Systems Inc** subsidiary of **Helionetics Inc**, and market the machine worldwide. The EISA bus Sentry-E server, which costs \$50,000, runs Unix and OS/2.

Pyramid Technology Corp has sold three Nile Servers to **Oracle Corp** in a deal worth \$2.8m: the database company will use the servers to run its Oracle Office application internally, supporting 2,400 employees and should be live by the end of the year.

SunService is to support users that install **Weitek Corp's** Sparc Power mP upgrade chip in Sparcstation 2s and IPXs.

Cray Research Inc, Eagan, Minnesota has got its first supercomputer into a Wall Street investment firm: **Merrill Lynch & Co** has installed a low-end Cray Y-MP2E system at its World Financial Center headquarters in Manhattan, where it will be used for proprietary trading analyses and risk management of existing portfolios.

Researchers at **Sandia National Labs** are claiming a US record for the 102.5 GFLOPS achieved by their **Intel Corp** Paragon massively parallel supercomputer, and they are now after the world record of 124 GFLOPS claimed by **Fujitsu Ltd**; the performance was achieved on a simulation program that predicts how an object will appear to radar.

Platinum Software Corp, Irvine, California, has put its Sequel to Platinum financial software up on **Sequent Symmetrys** and **WinServers** and **Data General AViiONs** +1 717 727 1250.

Legent Corp is buying Sunnyvale, California-based **TeamOne Systems Inc** and will integrate the firm's Unix configuration management software into its Endeavor change management framework.

Dallas, Texas-based **OpenConnect Systems Inc's** OCS II SNA gateway software is now up on HP 9000 servers, turning the box into a tool for connecting SNA hosts to Unix-based TCP/IP networks. +1 214 871 1949.

Parallax Graphics Inc is bringing video application development facilities to HP's workstations, doing a version of its VideoStream hardware for the 9000 Series 700 models. +1 408 727 2220.

Rational Inc, Santa Clara, California, is to distribute **Objective Interface Systems Inc's** Screen Machine ADA graphical user interface builder and Mountain View, California-based **Little Tree Consulting's** Ada code analyser. +1 408 496 3891.

MAINWIN SUPPORTS MS FOUNDATION CLASS LIBRARY, VISUAL C++

Mainsoft Corp's MainWin Cross-Development Kit now supports Microsoft Corp's Foundation Class Library and applications developed using Visual C++. The Kit enables users to convert Windows applications to Unix, but maintain the original look-and-feel of the application - or use Motif. They can also create multiple versions of an application for Sun, HP, IBM and Silicon Graphics workstations from the same source code that supports Windows 3.1 and NT. The new licensing agreement enables MainWin users to develop applications based on Microsoft Foundation Class Library of reusable objects with Microsoft's Visual C++ 32-bit development system. The resulting single source code base can be deployed under Windows or NT environments using Microsoft tools, or on Sun, IBM, HP and Silicon Graphics workstations and X terminals using Mainsoft tools. MainSoft's relationship with Microsoft could deepen later this month (UX No 465), if Microsoft licenses Windows 3.1 source code to Mainsoft. Unconfirmed US reports say Mainsoft may be trying to persuade Microsoft to jointly develop and market native Unix implementations of certain Windows applications.

APPLIED DIGITAL DATA DEBUTS NEW DISPLAY TERMINALS FOR UNIX MARKET

Hauppauge, New York-based Applied Digital Data Systems Inc has two new display terminals for the Unix market, the ADDS 4000/260 dual-host terminal, and the ADDS 4000/260lf small footprint display terminal. The ADDS 4000/260 is aimed at value-added resellers, and supports such emulations as SCO Console, Wyse 60 and 50+, and PC-Term. It runs at baud rates of up to 134.5K, has an 80Hz refresh rate, and supports more than 17 languages. The product is available now and costs \$575, with the choice of either a PC+ or ANSI keyboard. The ADDS 4000/260lf is targeted at such areas as banking and point-of-sale because it takes up only 50% of the space of a standard 14" terminal, and, so Applied Digital claims, up to 28% less than other small footprint terminals. Customers can also mount the footprint controller on the wall, under the desk or counter and vertically by the monitor, using a mounting bracket that comes with each terminal. The ADDS 4000/260lf supports baud rates of up to 115.2k; such emulation as SCO Console, Wyse 60, 50/50+, and Digital Equipment Corp's VT320, VT220 and VT100; supports dual hosts and dual sessions; a choice of compact or standard PC101 keyboard; 26, 44 or 49-line mode operation; and 80 or 132 columns. It is available now, costs \$684 and includes a monochrome logic controller, and a 9" VGA page white monochrome monitor.

IBM DENIES BULL ITS FUNDING

It is now confirmed that IBM Corp has better use for any cash it can find than contributing to Compagnie des Machines Bull SA's recapitalisation rights issue, and will sit on its hands as Bull passes the hat round. Bull said late last Wednesday that it will get a total of \$1,500m in new capital this year, with all but the \$65m from NEC Corp coming from the government direct or from the state via France Telecom. IBM made encouraging noises, saying it is interested in seeing IBM and Bull's co-operation reinforced and possibly expanded in the RISC technology area, but that other financial priorities prevent IBM from participating this time.

Z-CODE SOFTWARE'S Z-MAIL NOW HANDLES MULTIMEDIA DATA

Version 3.0 of Z-Code Software Corp's Unix-based electronic mail package, Z-Mail, now supports the Mime Multipart Internet Mail Extensions standard, which enables users to send binary audio, image and text files embedded in mail messages. According to *Computerwoche*, the multimedia data attaches itself to a conventional e-mail file, and users simply have to indicate what type of document they are sending - for example, Framemaker - and give the relevant data file in that document a name. A list of incoming mail is supplied at the other end, with the multimedia file appearing as an icon. The user here simply double clicks on the document to access it. The whole system runs under Motif.

MEDIAMAGIC SOFTWARE DEVELOPER'S KIT ADDS MULTIMEDIA TO HP 9000s

Richardson, Texas-based MediaMagic Inc has started first shipments of its 700SDK Software Developer's Kit Option. Combined with MediaMagic's EISA-compliant Base Video Board, CD Quality Audio Option and JPEG Compression Daughter Card, the 700SDK is a multimedia enhancement for the Hewlett-Packard Co Series 700 workstation. The Kit enables developers to integrate 24-bit full-motion video, synchronised audio and JPEG compression into their applications, the firm claims. It contains multi-layered Source Code Levels and provides over 60 SDK functions callable from C source code; 12 General Hardware functions for hardware initialisation and status information; 29 Video Hardware functions to control the video sub-system; 21 Audio Hardware functions to control the audio sub-system and a Custom Video Widget for Motif-based applications. The Software Developer's Kit includes an Archive Library containing both source and sample code, a complete Function Calls listing and private and public domain tools to assist in image and audio viewing, listening, manipulating, editing and converting. Source code is provided wherever possible.

NIPPON TANDEM CHALLENGES MAINFRAME WITH "INTEGRITY"

Nippon Tandem Computers has announced its Integrity NR - "Network Resources" - series of three superscalable business Unix server machines in Japan, although they were announced several months ago in the US. Neal Waddington, vice president and general manager of the Integrity Systems Division of Tandem Computers Inc, was in Japan at the time, and said he expected the new series would hit the same markets in Japan as the US - filling the needs of business users looking for mid-range machines priced between \$100,000 and \$1m, who to date have purchased small mainframes. Tandem feels there is a broad market for systems in that price range, and Integrity will compete with those of Data General Corp, Sequent Computer Systems Inc and Pyramid Technology Corp - in Japan, these replace the proprietary mainframes of the three established Japanese manufacturers - and its reputation in the fault-tolerant market positions it well. Waddington also expects the Unix system business to grow in Japan to the equivalent of 20% of Tandem's business - in the US, it should be a slightly higher percentage and in Europe slightly lower. Last year Tandem generated the equivalent of \$230m revenues in Japan, compared with \$250m in Europe, \$100m in the Asia Pacific region and \$500m in the US. Nippon Tandem was set up in 1979. Major users to date include financial and securities industries such as Sanwa Bank, Bank of Tokyo, and Yamaichi Securities; credit companies such as Japan Credit Bank and the Jaces leasing outfit; and Tandem's traditional stronghold, communications firms such as Nippon Telegraph & Telephone Corp, Kokusai Denshin Denwa Co, and International Telecom Japan Ltd; and retailers and department stores such as Isetan. Many of the Nippon Tandem Computers executives were recruited from IBM Japan Ltd.

VOLKSWAGEN TO IMPLEMENT OBJECT INFO SYSTEM FOR DEALERS BY 1996

Volkswagen AG is developing an object-oriented information system, Euro-Elan, to supply general business and export data to its dealers in Europe. *Computerwoche* says the system should be up and running by 1996, catering for 9,500 dealers and 110,000 customers within five years. Volkswagen and its exporters set up a separate company, Euro Marketing Systems GmbH, in 1991 to realise this aim, and the firm currently has 55 staff working for it. An office in Salzburg has worked on the project from the design to the prototyping stage; 14 staff at headquarters in Braunschweig are putting the final touches to it; and an office in Leusden, the Netherlands, will implement it, provide support and training. Euro-Elan is written in C++, is supported by a Versant Technology database. It runs under six different Unix environments.

unigram X

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Yoshiro Yoshioka, general manager of the Open Systems Group at **Fujitsu Ltd**, says he expects the release of a 64-bit based product from **HAL Computer Systems** around the end of 1994. However, he appears to reflect general sentiment when he says that the alliance between Fujitsu and Ross Technology to develop and manufacture high-performance Sparc chips is much more important for the future.

In an attempt to make **IBM Corp** a more customer friendly place, chairman Louis Gerstner has ordered the firm's operations to give themselves names that customers can more easily associate with: the Advanced Workstations and Systems Division last week became IBM's RISC System/6000 Division - there are no personnel changes, and Bill Filip remains vice president and general manager.

Although **Hewlett-Packard Co** has the likes of Stratus Computer Inc, Samsung Electronics Co and Convex Computer Corp using PA-RISC in systems, it hasn't picked up too many other adherents for the CPU along the way. Rather than try to cultivate a clone market, HP's partners in PRO, the Precision Risc Organisation of PA supporters, are working on solutions for markets HP does not address. Hitachi Ltd has already announced a range of low-power CPUs, the PA/50, which it uses in laptops and low-end workstations and offers at \$100 in quantity. Winbond Electronics Corp has an Intel Corp 80486-alike W89K PA implementation for low-end devices and embedded systems that starts at \$25. It doesn't run Intel binaries, but will talk to Intel companion logic, the firm says. Oki Electric Industry Co's OP32 PA-RISC is designed for low-end devices and the automotive industry and starts at \$25.

Hewlett-Packard declined to say how much keeping up its own RISC strategy is costing it, and as it doesn't sell chips on the merchant market, has no prices for them. It can afford, it says, to plough profits into continued PA research and development and says fab prices are kept low by using the same process as ASIC production for its LaserJet printers.

Hewlett-Packard's multiprocessing server line - currently at 12 CPUs in the 9000 series 800 T500 - will top-out at around 20 processors, the firm says, even though the architecture can support as many as 32. The company expects Convex Computer Corp's PA-based massively parallel system to fulfill customer needs above that mark. They'll start with four or eight CPUs and climb gradually to 100 and more.

Hewlett-Packard's oft-repeated remark is that its new PA-RISCs are "NT-ready... but we're not announcing NT." If the anti-NT forces within HP don't have their way, then HP will likely announce NT later next year. Possibly on an LX system?

Insignia Solutions Inc will deliver Intel Corp 80486 emulation in SoftWindows in the second quarter of next year courtesy of **Bristol Technology Inc's** Wind/U.

Motorola Inc's microprocessor division will offer **Wind River Systems Inc's** real-time VxWorks Unix on its 68040 from the first quarter of next year, and eventually on the next-generation 68060, a part Motorola hopes to ship by mid-1994.

Objex, the object conference and expo, will be held February 27-March 3 at the Moscone Convention Center in San Francisco.

A Business Object Management Special Interest Group has been formed inside the **Object Management Group** to look into the use of object technology by data and business process managers as they move from current practices to objects.

Now that it's been taken over by **Fujitsu**, **HaL** will be known as **HaL Computer Systems International Ltd**, a Delaware corporation. Apparently Fujitsu had owned 44% and acquired the remaining 56%.

The Australian Unix User Group has scheduled its next confab for September 7-9, 1994 at the World Congress Centre in Melbourne.

John Simontacchi, one of **NCR** CEO Jerre Stead's boys brought in to run its Windows NT operation as assistant vice president, has quietly picked up product marketing responsibility for Unix as well.

We had a call from the **Intel Corp** thought police last week, who chastized us for asserting privately the notion that the P6 and P7 won't be backward compatible with the iAPX-86 line. Enterprise Programs manager John McNulty says Intel has taken a blood oath to ensure such a thing won't happen. Programs will have to be recompiled for the sake of performance, however. He's sure RISC salesmen are trying to smear Intel with such slanders.

After **Intel's** call, we put our ear to the ground to hear what the tom-toms were saying and according to the gossip mill, Intel has been having a hard time meeting its P6 performance goals, enough to kill the project off several times. P7 is a more aggressive RISC design still and they say that to insure iAPX-86 compatibility Intel, borrowing an idea from IBM Corp, is buckling a transistor-based code converter on the thing. Meanwhile, Intel's senior vice president, Paul Otellini, is saying that the P6 is due in 1995. He also said the firm will begin a large advertising campaign for Pentium in the March/April timeframe - just about when the OverDrive Pentium upgrade part is due.

Candidly speaking, UK Firm **IXI Ltd** likes some of the things Interleaf Inc has done in its Windows-style widgets for Motif (UX No 466): if it is good enough, IXI says it might use some of the Interleaf technology for Motif and Windows mapping in its Win-tif system.

Indeed next month, alongside an ISV programme (UX No 466), **IXI** promises a Win-tif SDK including linking features enabling applications to take advantage of shared library system, support for which is crucial in being able to offer different interface styles. Sun and IBM support shared libraries. Ironically, IXI parent SCO doesn't.

IDG is going to take *SunWorld* magazine and turn it into *Advanced Systems*, a catch-all covering the whole Unix/RISC workstation market. The changeover starts in February.

French industry minister Gerard Longuet said the timetable for the privatisation of **Compagnie des Machines Bull SA** had not yet been finalised, and will likely take 18 months or so: "it's a question of setting a calendar - a company that makes money sells easily, a company that doesn't make much sells badly; we don't want to make Bull's statutes last forever," Longuet said in an interview on French television.

SunSelect's development work on version 2.0 of its Wabi Windows-under-Unix emulation software is reportedly now well under way. It is believed to run about 30 Microsoft Corp Windows applications rather than just 13 like version 1.0, and is expected to incorporate MS-DOS emulation technology from IBM Corp, including some elements of Big Blue's PC-SIM MS-DOS emulator for AIX.

Neuron Data Corp has taken on Stephen Young from **Legent Corp** as vice president of sales and Mark Finkel, formerly at **Consilium Inc**, as chief financial officer. The Palo Alto, California firm also reports that Boston, Massachusetts-based **Segue Software Inc's** QA Partner testing tool is now supported on its Open Interface Elements and C/S Elements graphical user interface building kits.

Informix Corp has paid £1m for a 2,000 user licence to Hemel Hempstead, Hertfordshire-based Uniplex Ltd for Uniplex 7.0 and onGO office software. The deal covers any enhancements made to the products over the next three years.

The **International Standards Organisation's** Guidelines for the Definition of Managed Objects, GDMO (UX No 466), is a way of defining objects that are managed using the Common Management Information Protocol. It supplies users with syntax and a series of templates, which they fill in like a form. At the moment, GDMO is used mainly by telcos for managing large networks, although it could also be used for systems management.

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